SEQUENCE LISTING

<110> Seishi Kato and Tomoko Kimura

<120> HUMAN PROTEINS HAVING HYDROPHOBIC DOMAINS AND DNA ENCODING THE SAME PROTEINS

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35 40 45

Arg Arg Leu Ala Arg Gln Leu Leu Leu Leu Ile Ile Ser Leu Leu Pro
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Pro Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Gly Pro Gly
65 70 75 80

Gln Gly Pro Gly Pro Gly Gln Gln Pro Pro Pro Pro Pro Pro Asn His Asn
85 90 95

Gln Ser Gly Gln Gln Tyr Asn Gly Glu Arg Gly Ile Ser Val Pro Asp
100 105 110

His Gly Tyr Cys Gln Pro Ile Ser Ile Pro Ile Val Tyr Thr Arg Leu Ala
115 120 125

Tyr Asn Gln Thr Ile Met Pro Asn Leu Leu Gly His Thr Asn Pro Leu
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Asp Ala Gly Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln
145 150 155 160

Cys Ser Ala Glu Leu Lys Phe Phe Leu Cys Ser Met Tyr Ala Pro Val
165 170 175

Cys Thr Val Leu Glu Gln Ala Leu Pro Pro Cys Arg Ser Leu Cys Glu
180 185 190

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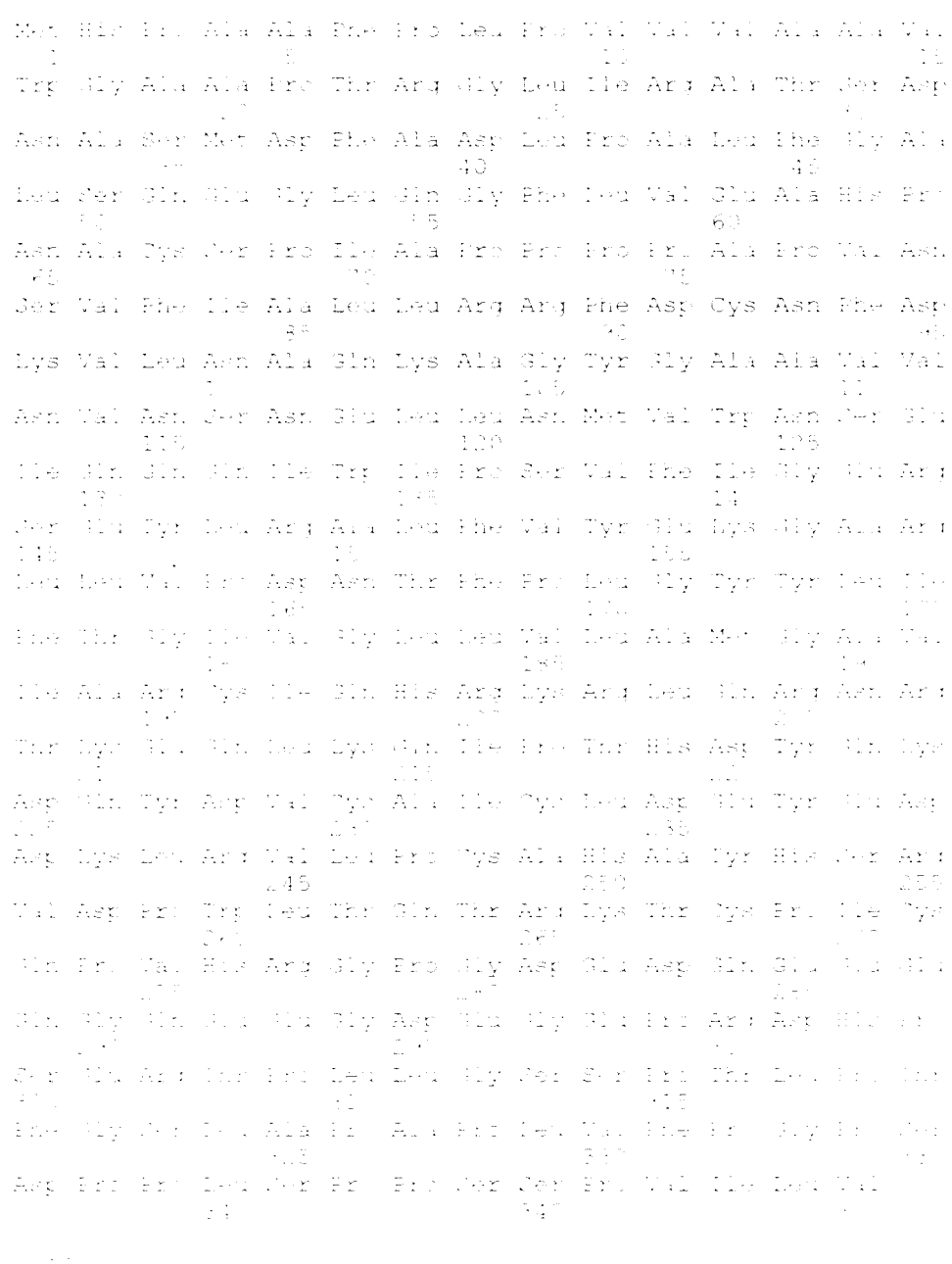

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Gly His Pro Ile Pro Phe Gly His Gln Pro Asn Arg Leu Ile Arg Gly
Trp Lys Leu Gly Gln Arg Arg Arg Val Tyr Pro Leu Val Arg Arg Arg
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Asp Leu Thr Lys Val Thr Arg Met His Gly Ile Asp Pro Val Val Leu
Val Leu Met Val Gly Val Val Met Phe Thr Leu Gly Ile Ala Gly Tyr
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Cys Gly Ala Tyr Gly Pro His Asp Trp Asp Leu Asn Val Tyr Leu Asn
Cys Ser Gly Ala Ser Tyr Ser Ala Glu Lys Tyr Gly Val Ile Ile Ser
Cys Tyr Val Ile Asp Pro Ala Ile Lys Val Val Asn Ile Ile Tyr Leu
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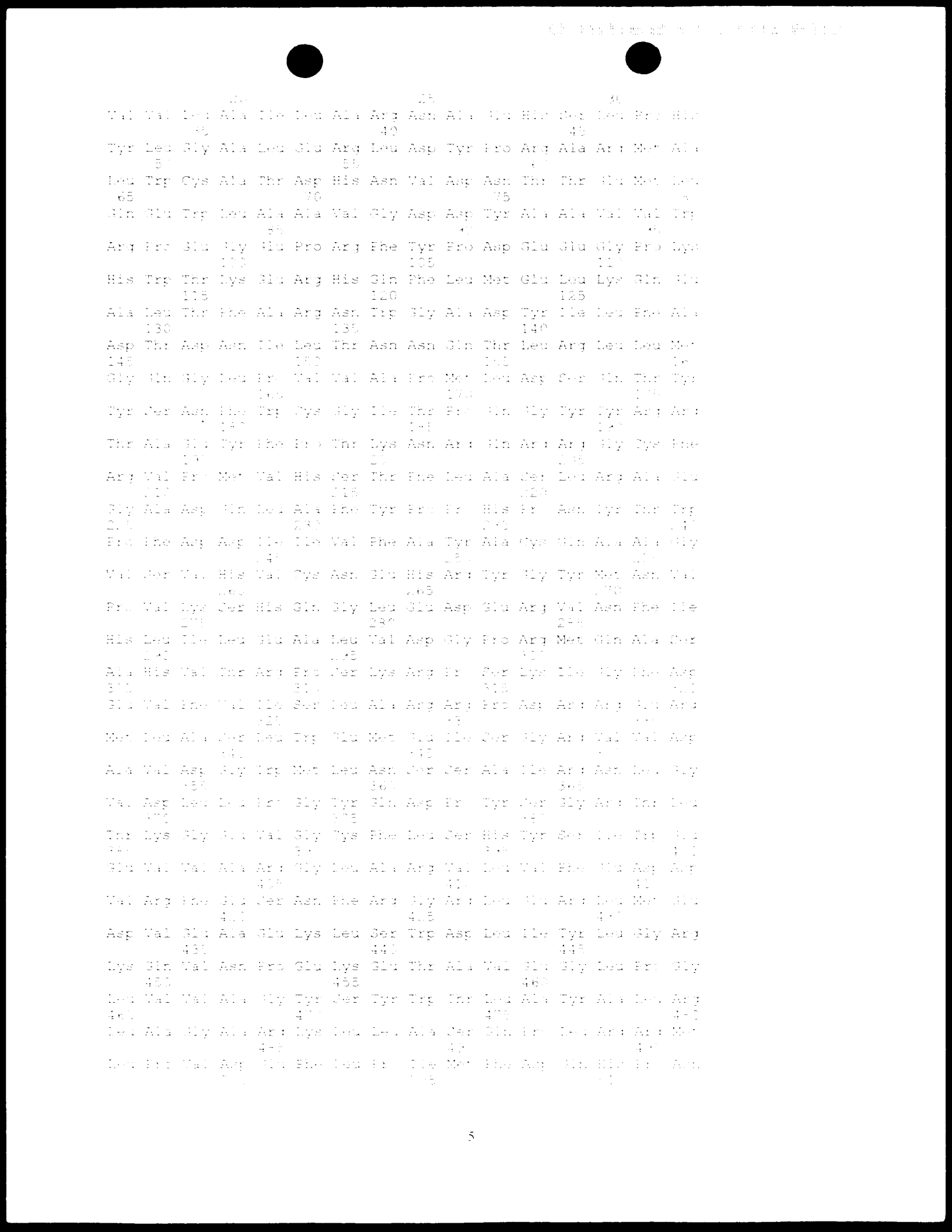

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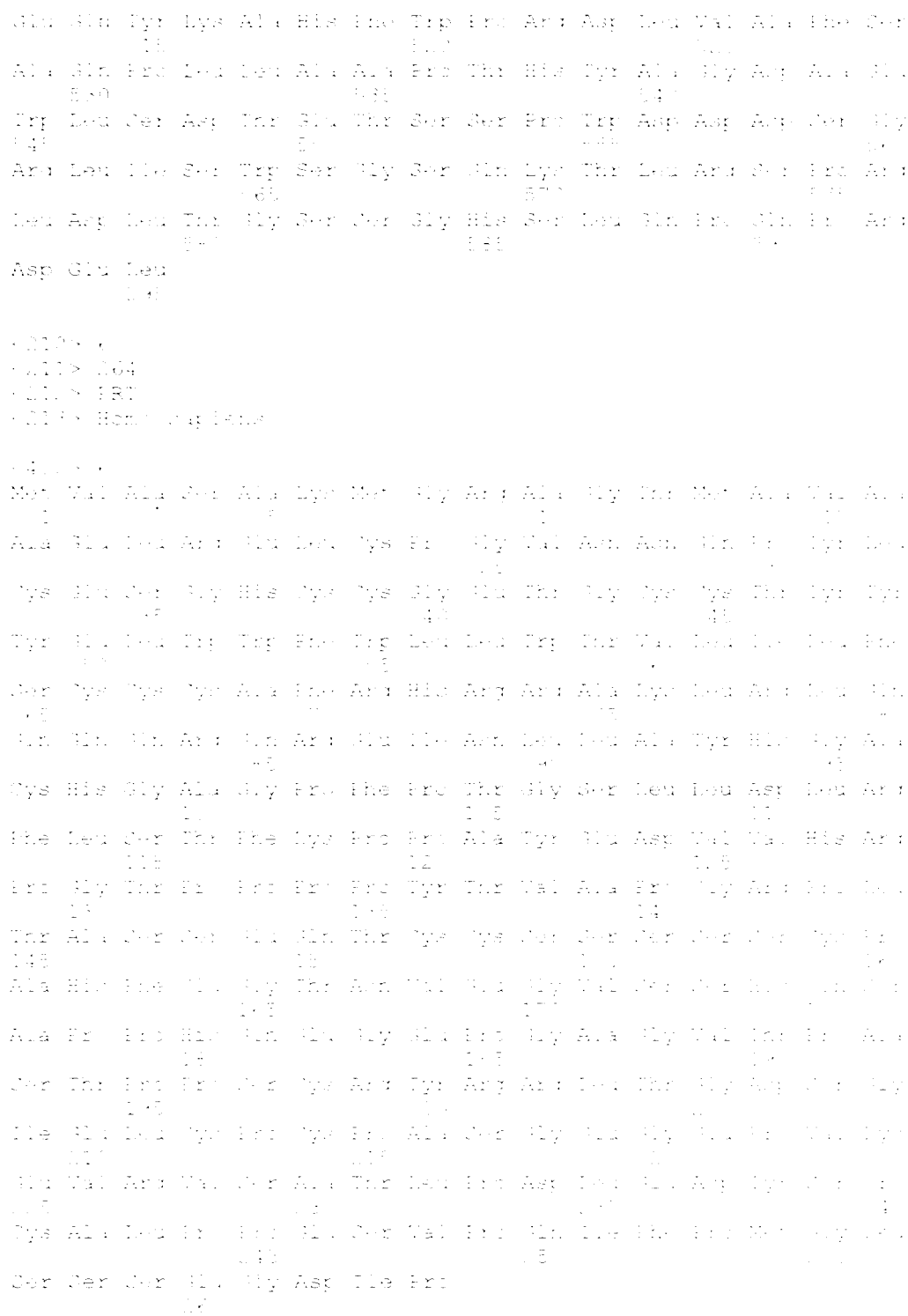

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Leu Leu Gly Thr Val Leu Leu Trp Val Pro Arg Lys Gly Leu His Leu
50 55 60

Phe Ala Val Phe Tyr Thr Phe Gly Asn Ile Ala Ser Ile Gly Ser Thr
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Ile Phe Leu Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro
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Thr Arg Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr
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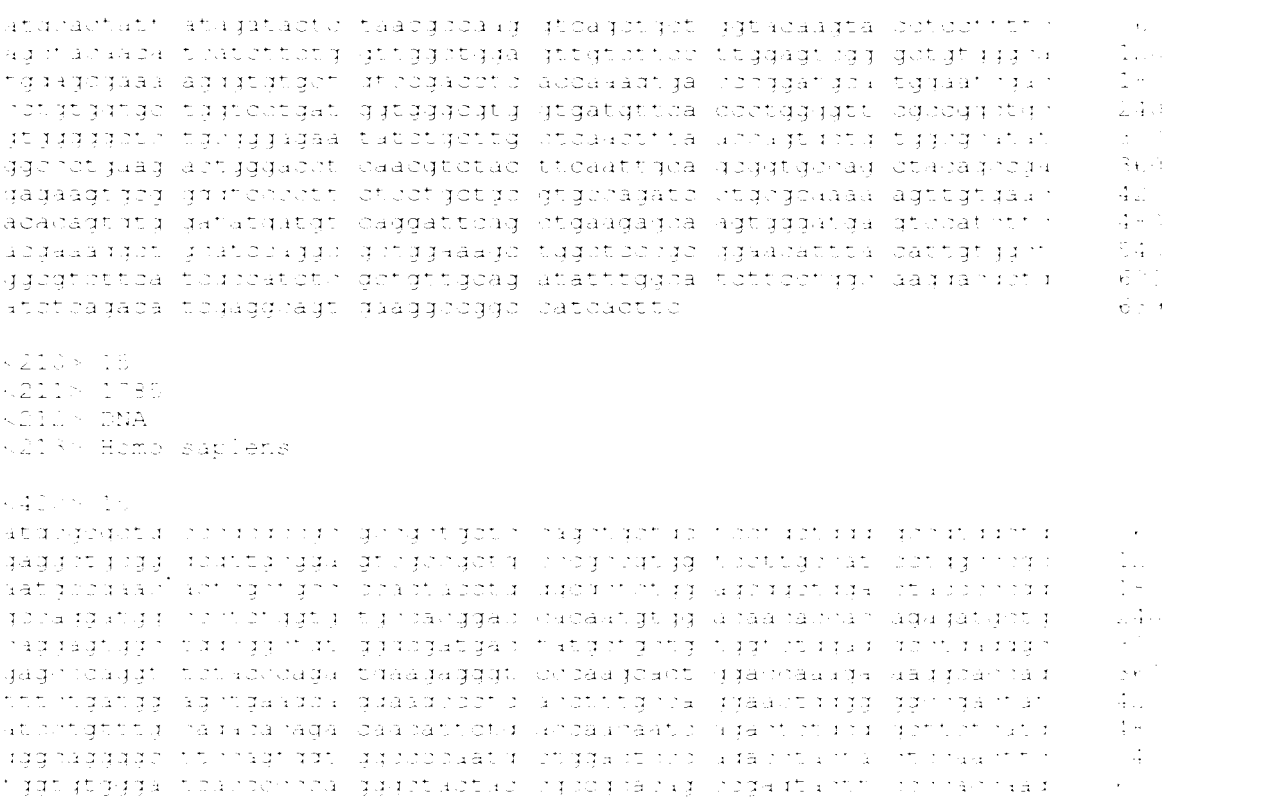

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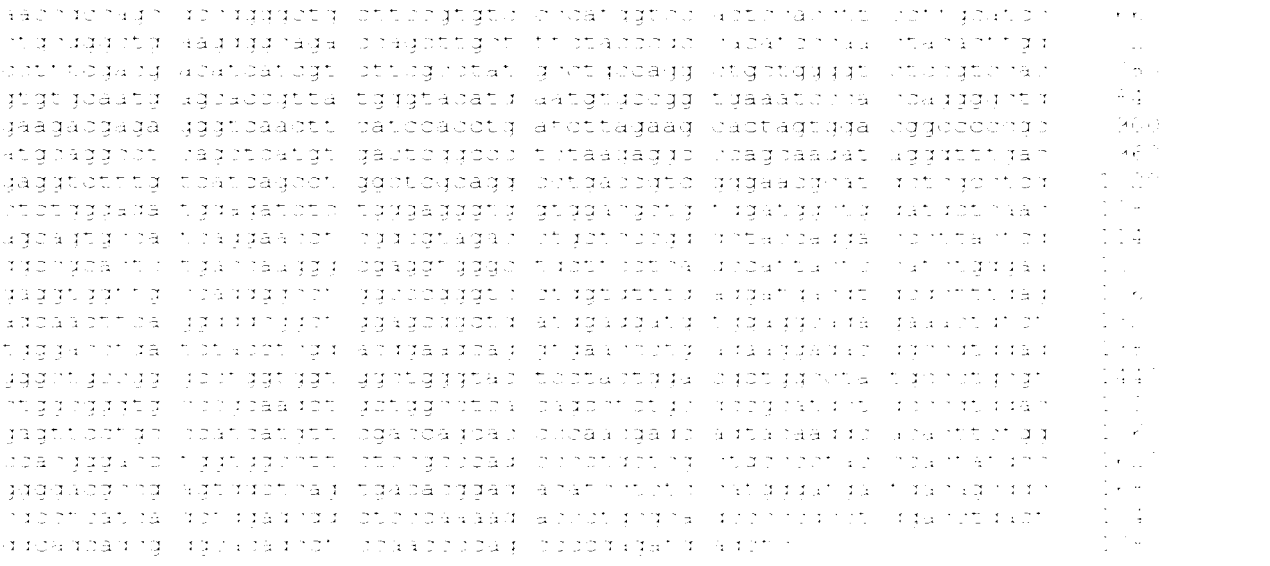

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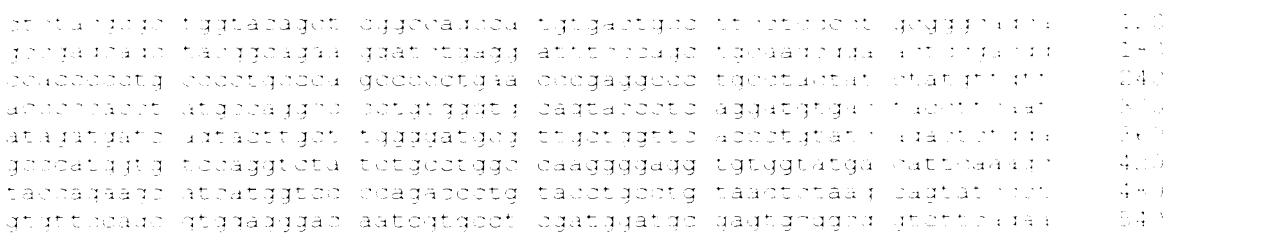

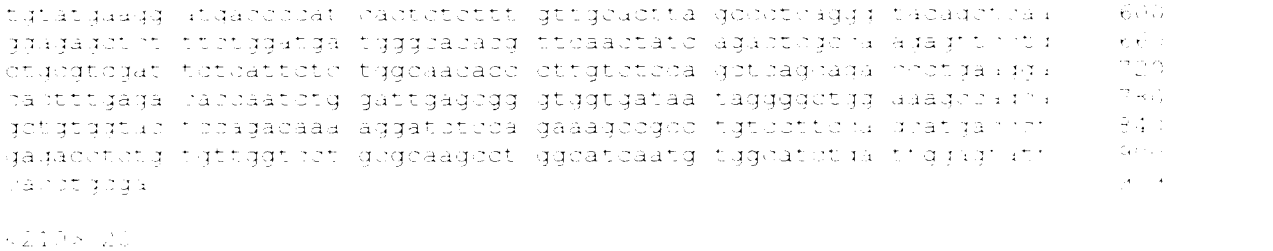

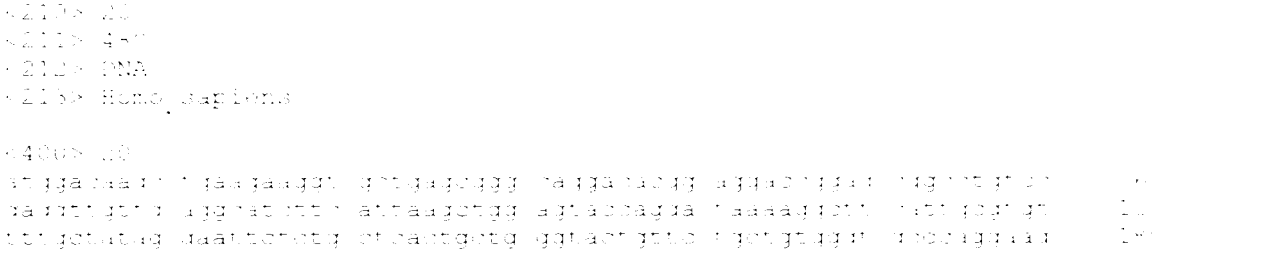

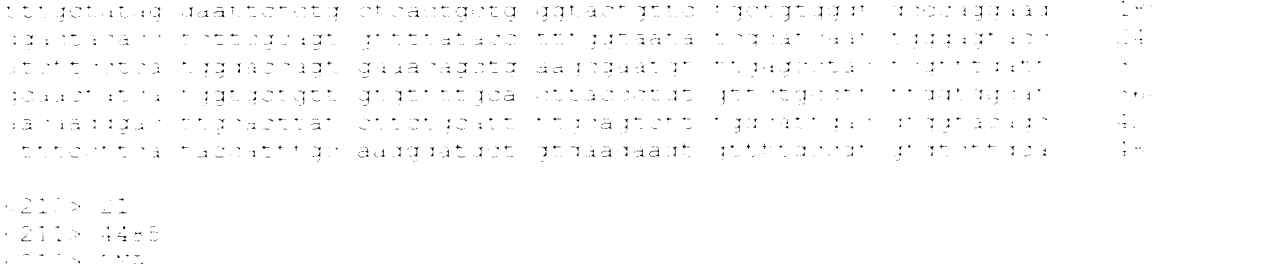

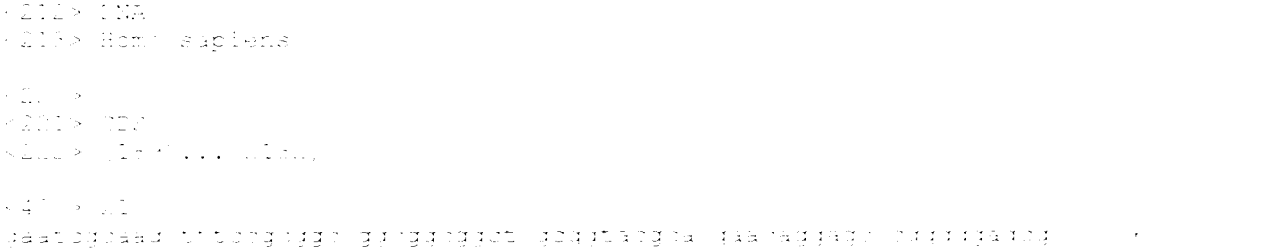

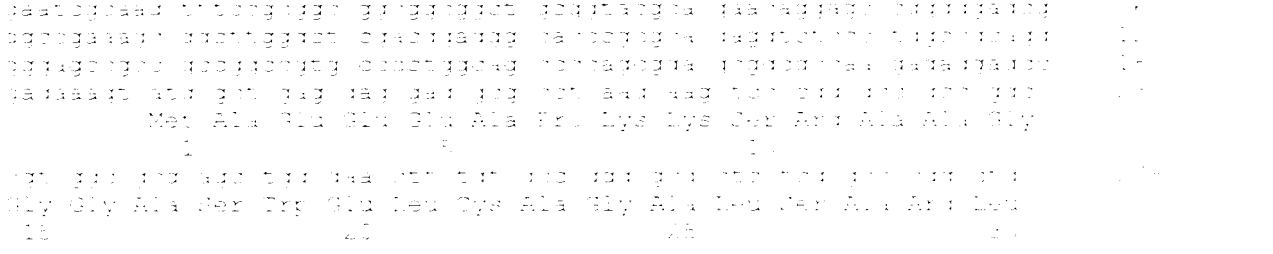

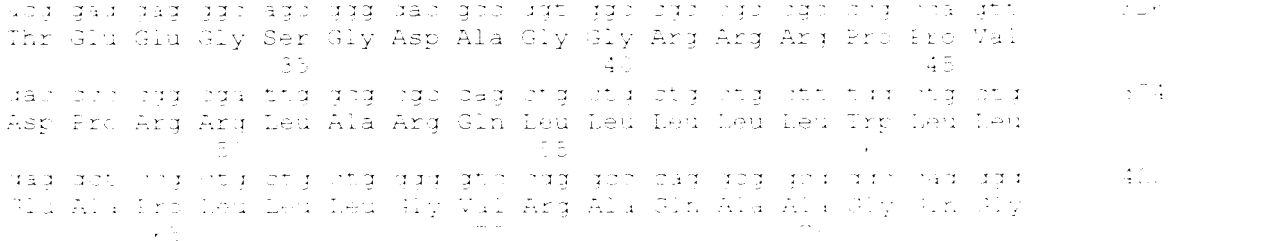

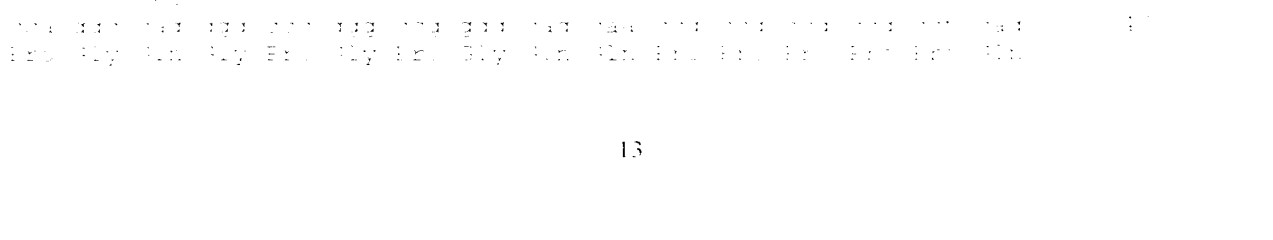

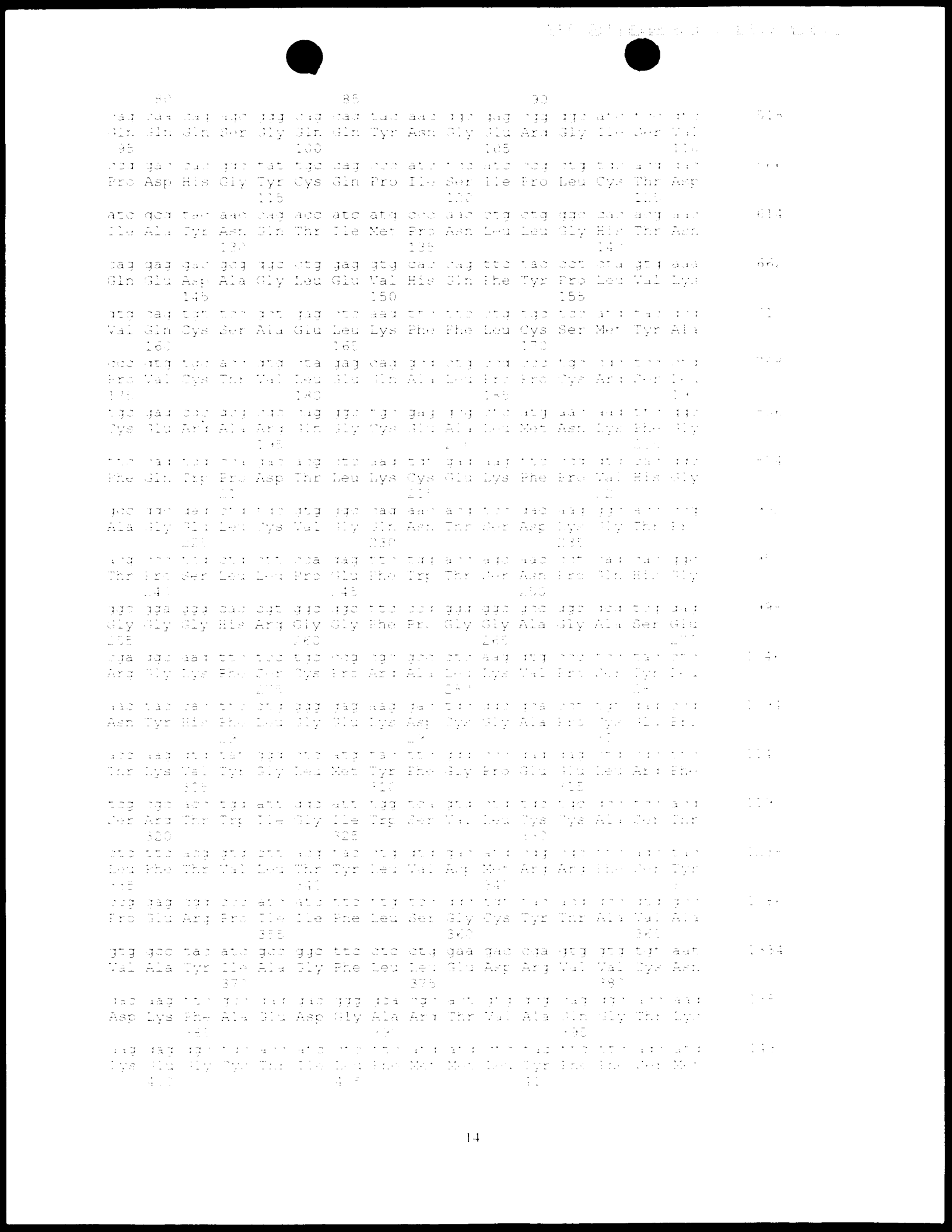

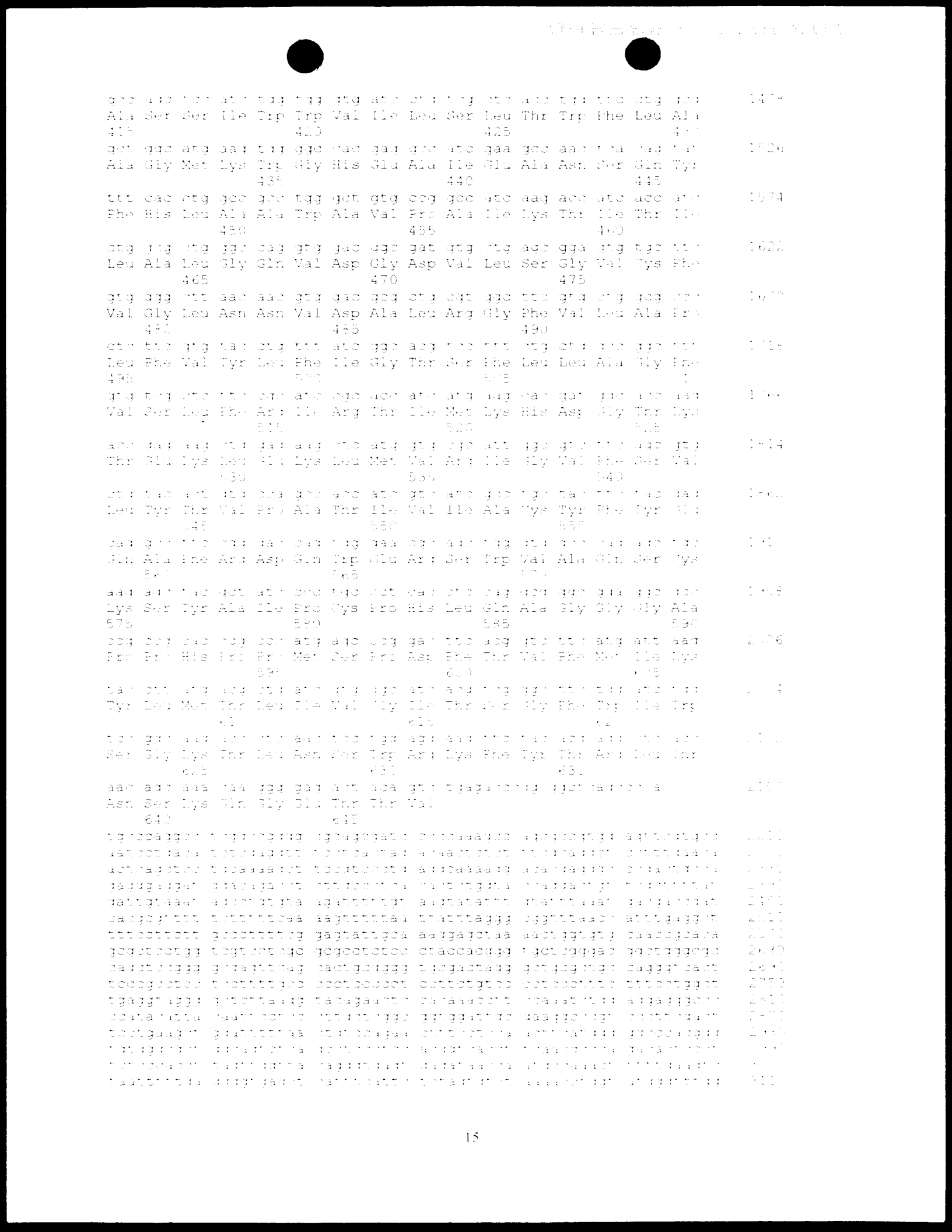

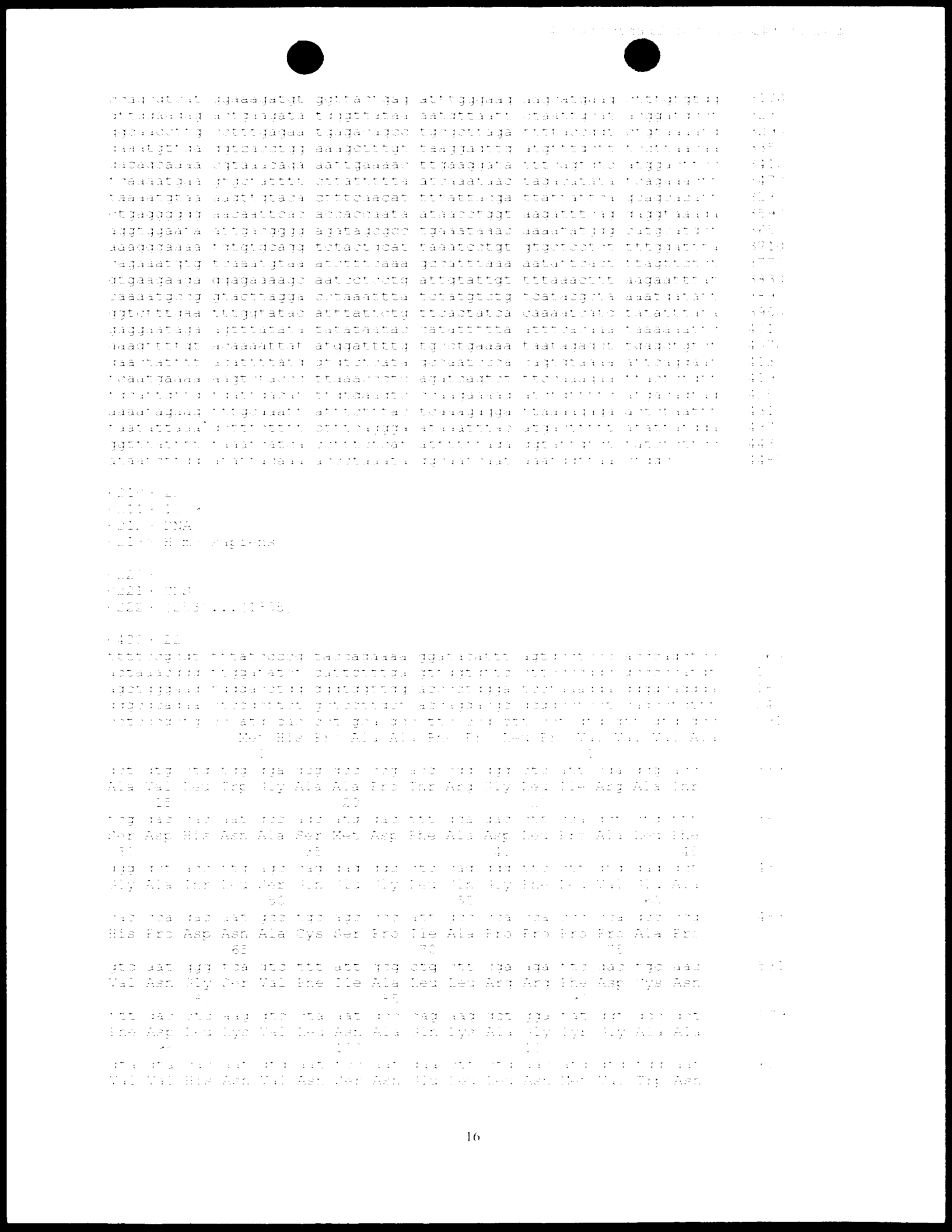

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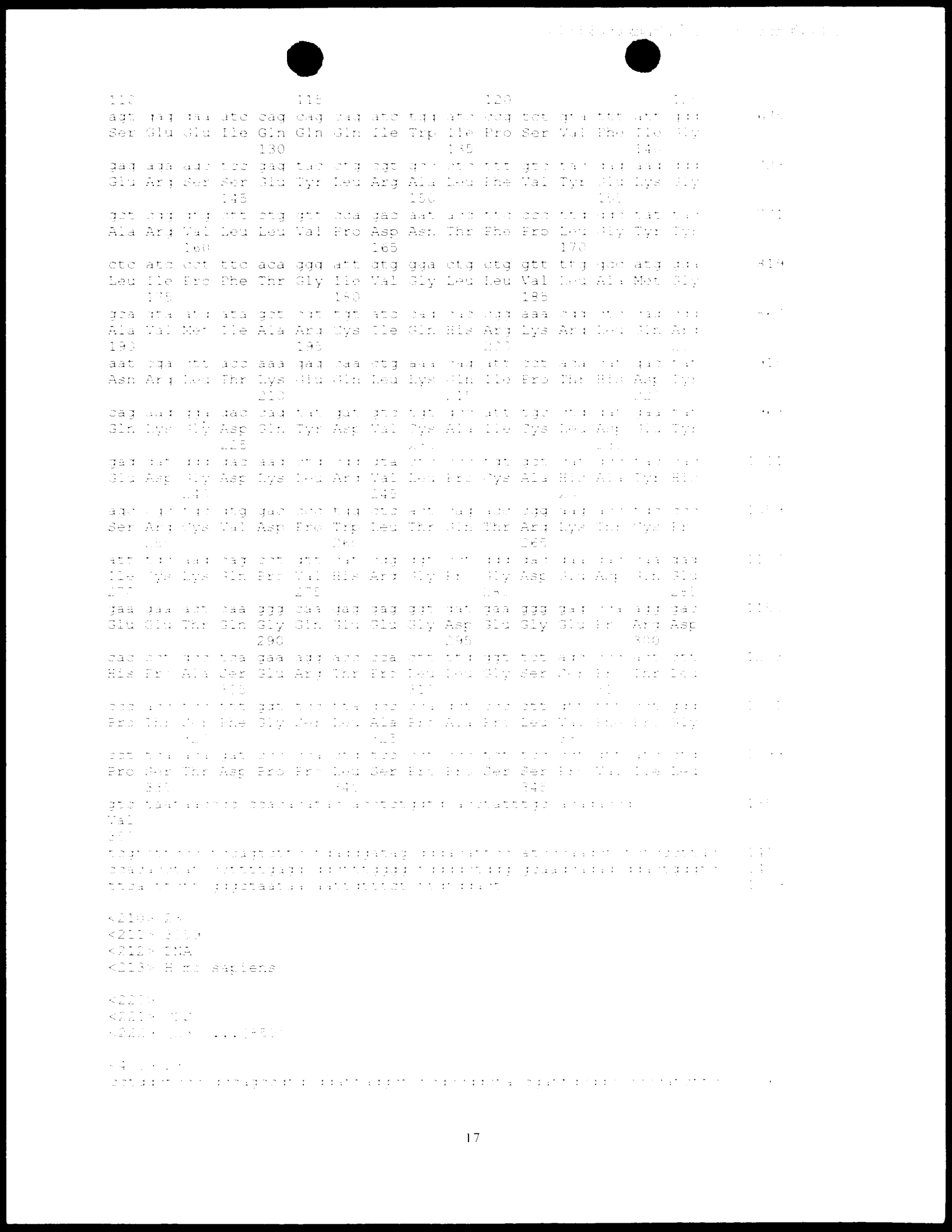

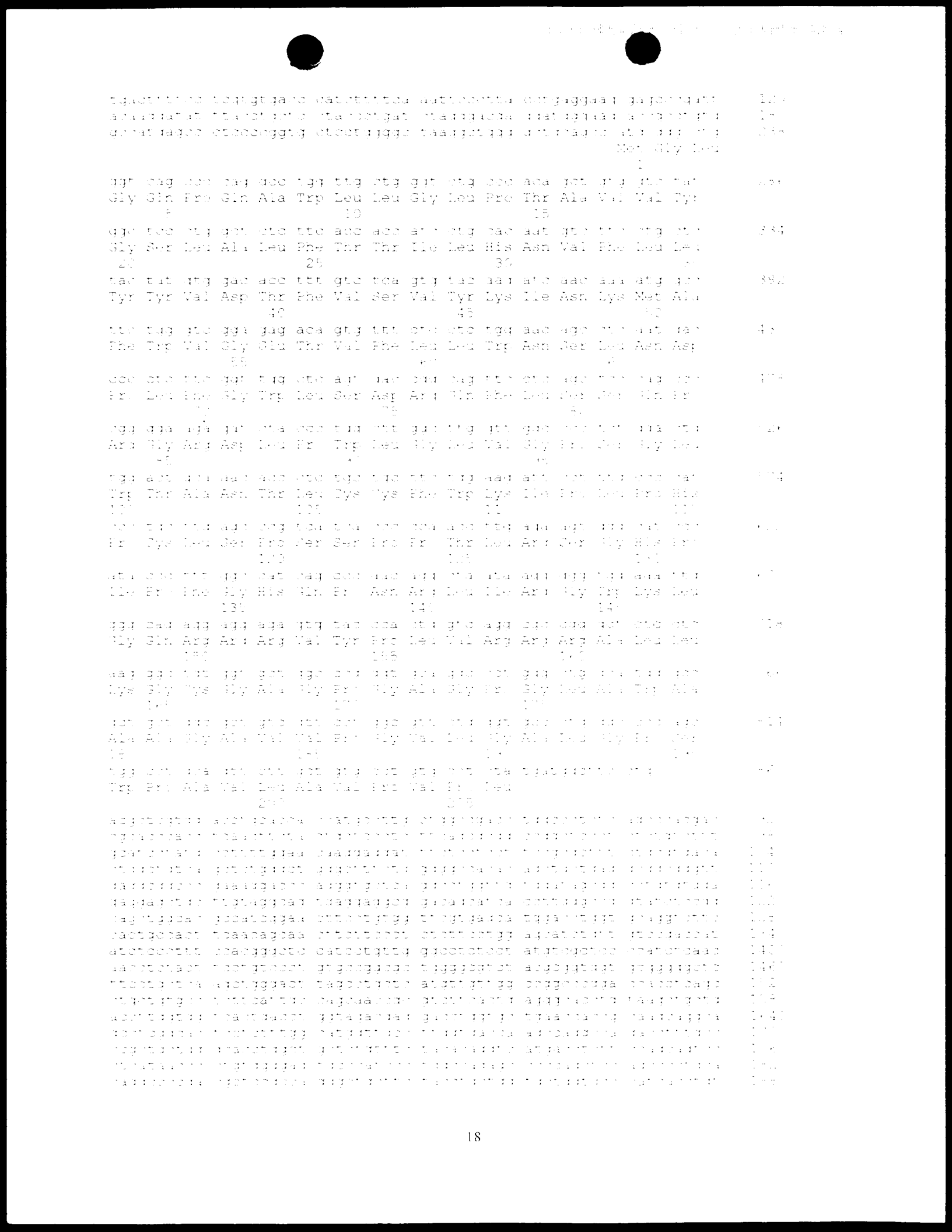

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Tyr Tyr Val Asp Thr Phe Val Ser Val Tyr Lys Ile Asn Lys Met Ala
35 40 45

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50 55 60

Pro Leu Leu Gly Trp Leu Ser Asp Arg Thr Phe Leu Phe Tyr His Ile
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Arg Arg Gly Asp Ile Pro Trp Leu Gly Leu Val Gly Leu Ala Val Thr
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Trp Thr Ala Asn Thr Leu Cys Cys Phe Trp Lys Ile Ile Pro Leu Ile
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110 115 120

Ile Pro Gly His Val Ile Asn Arg Leu Ile Arg Gly Trp Lys Leu
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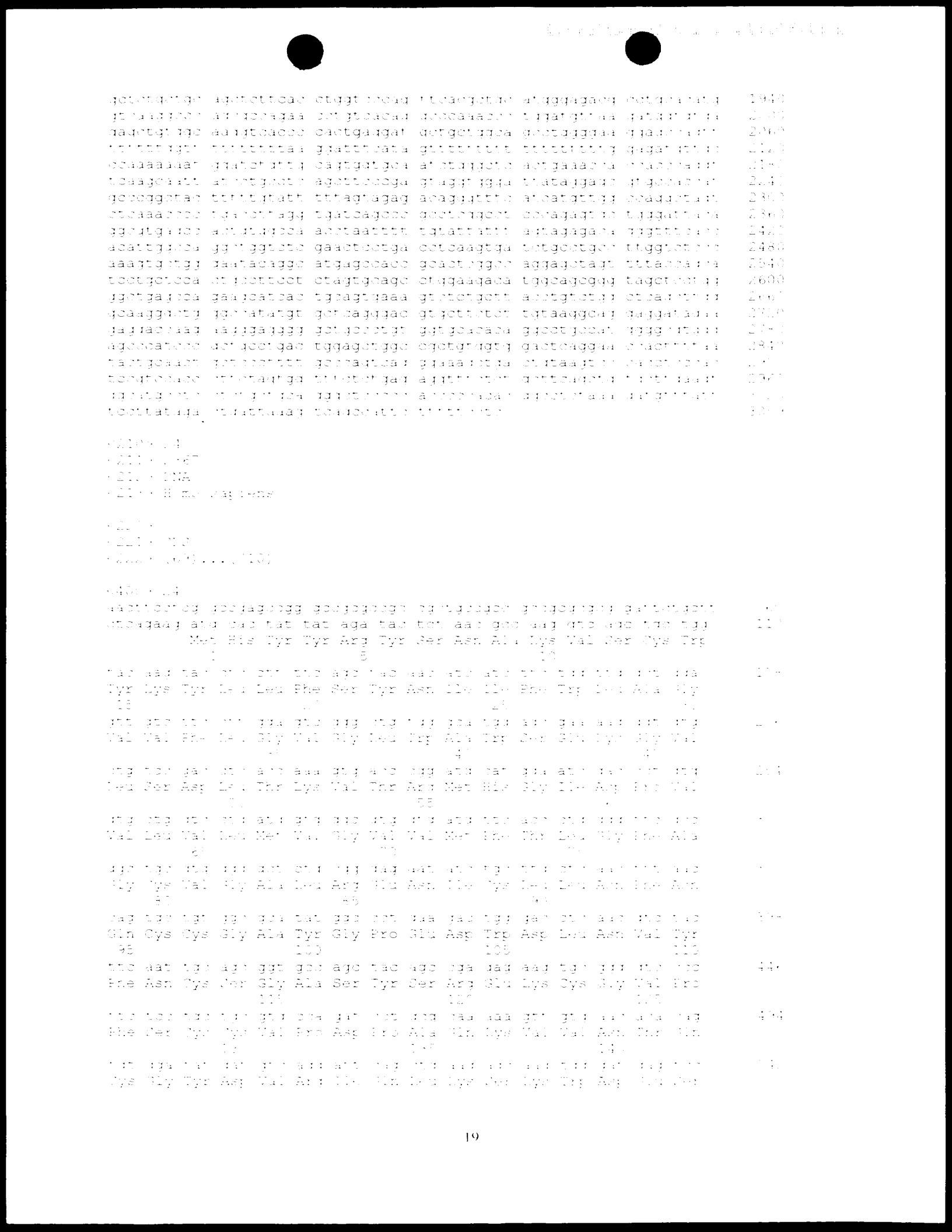

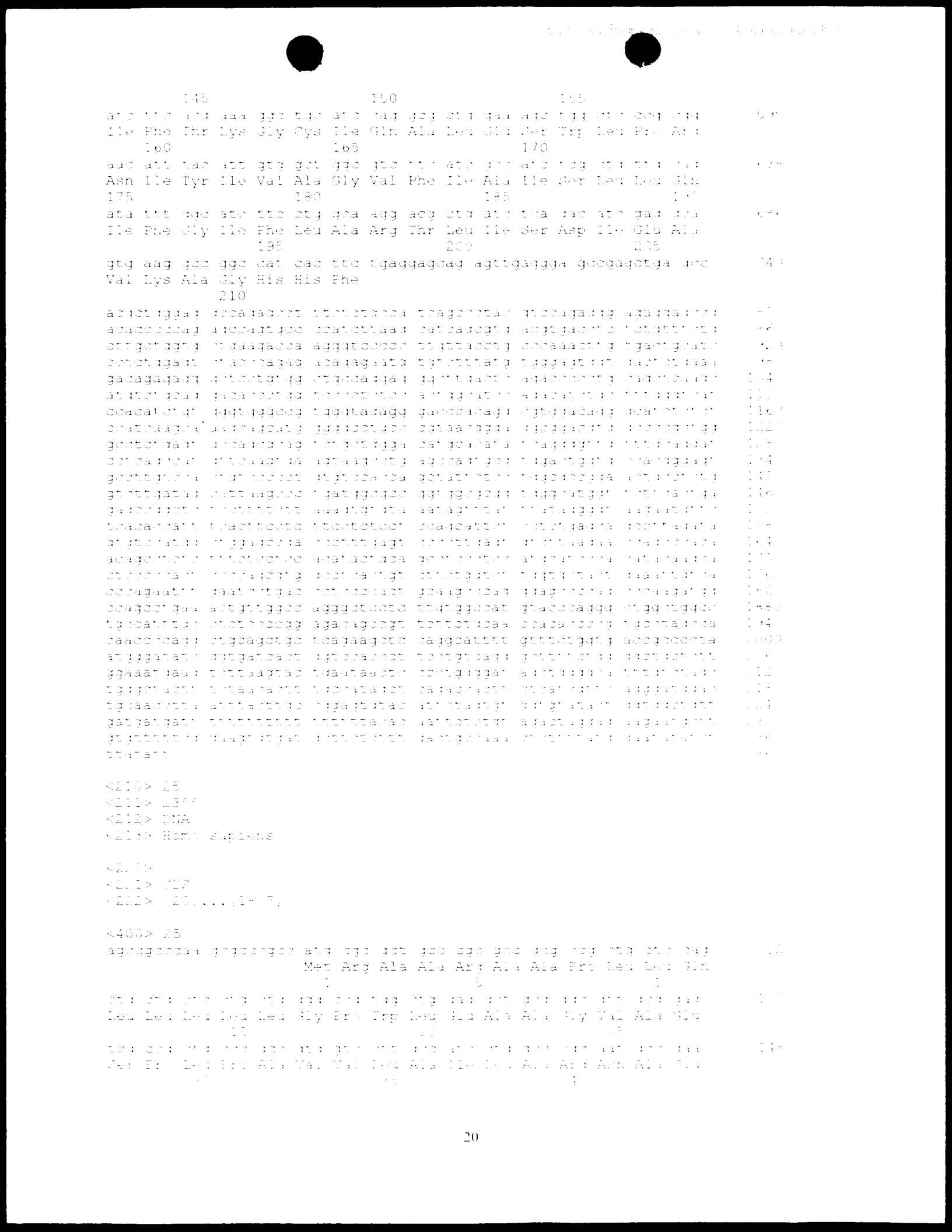

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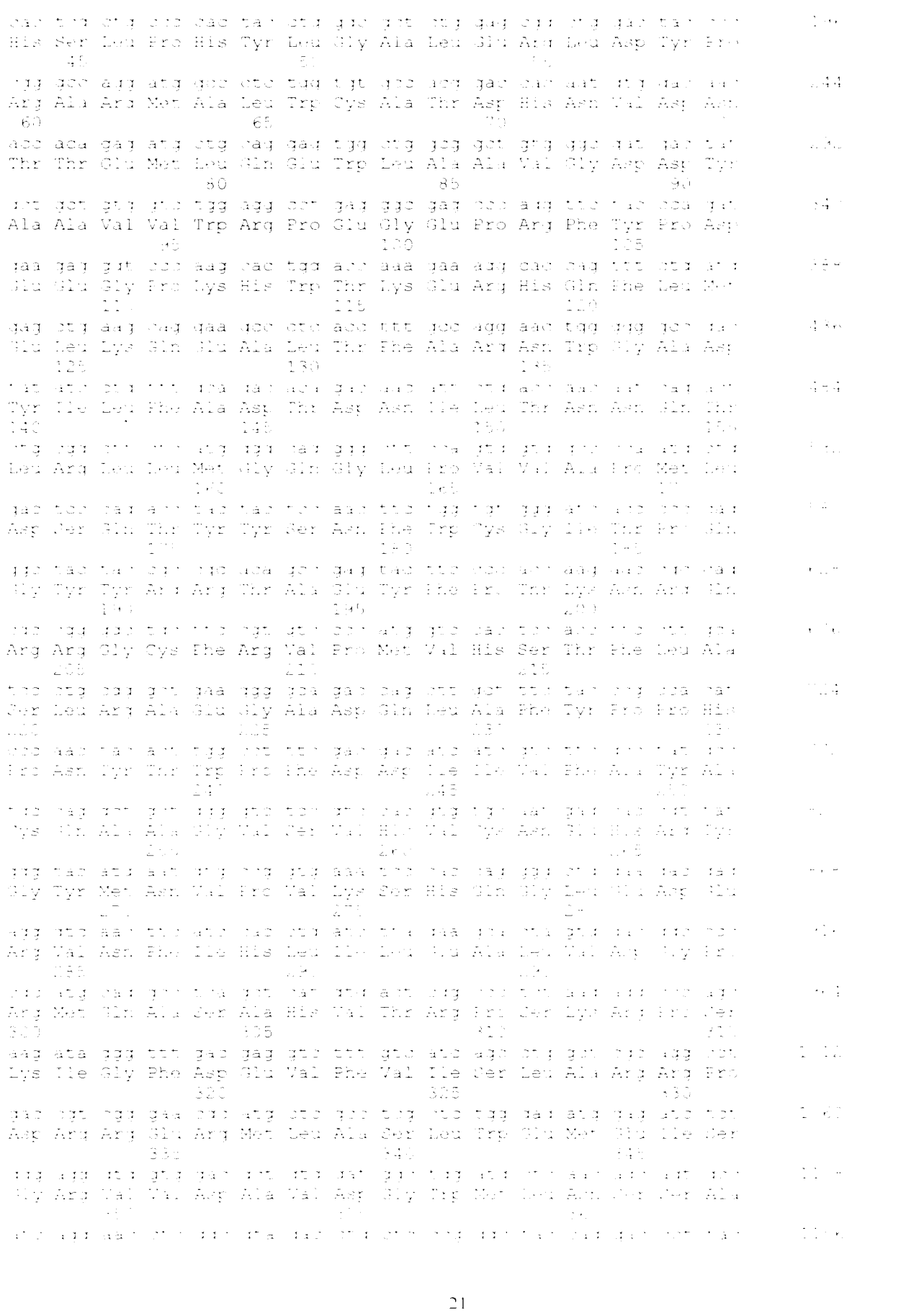

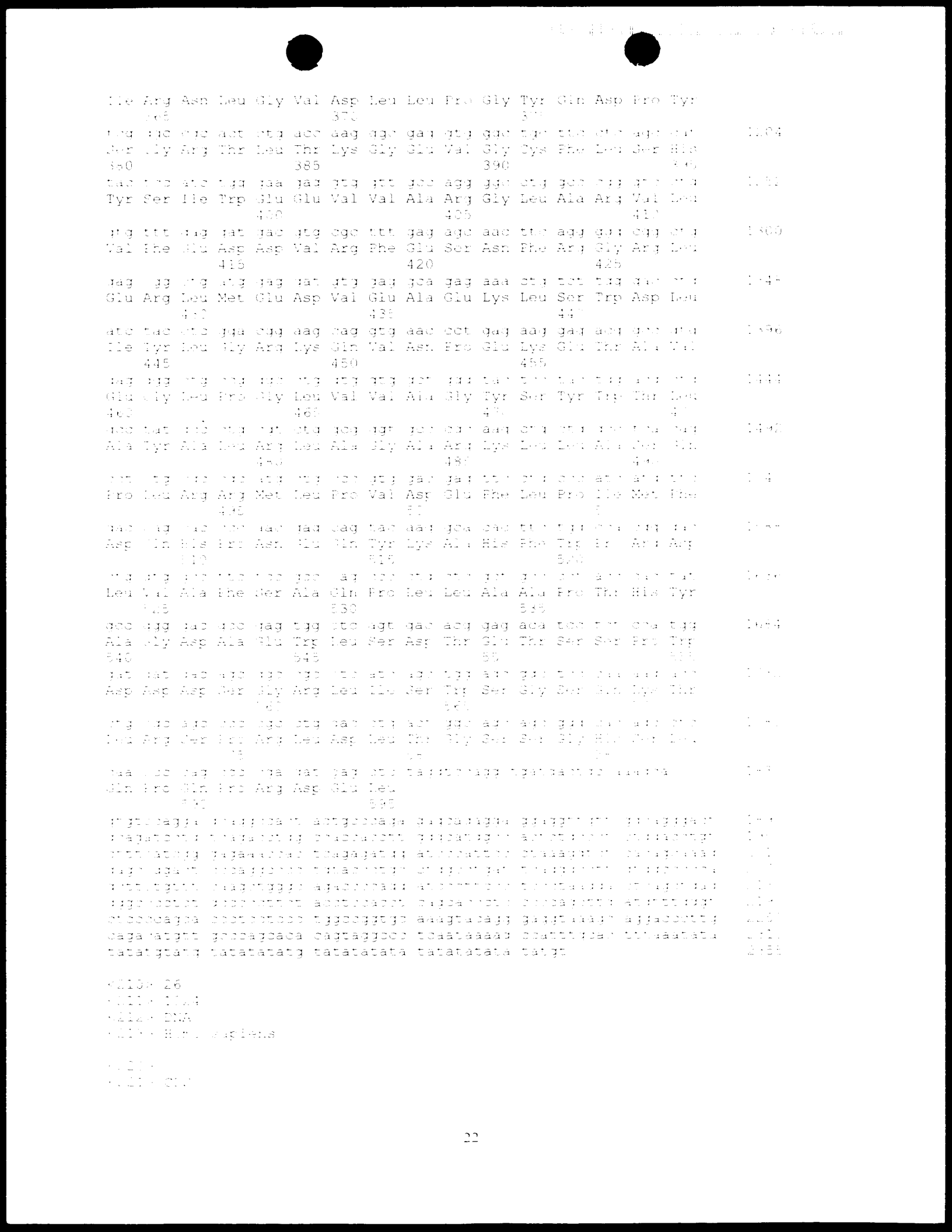

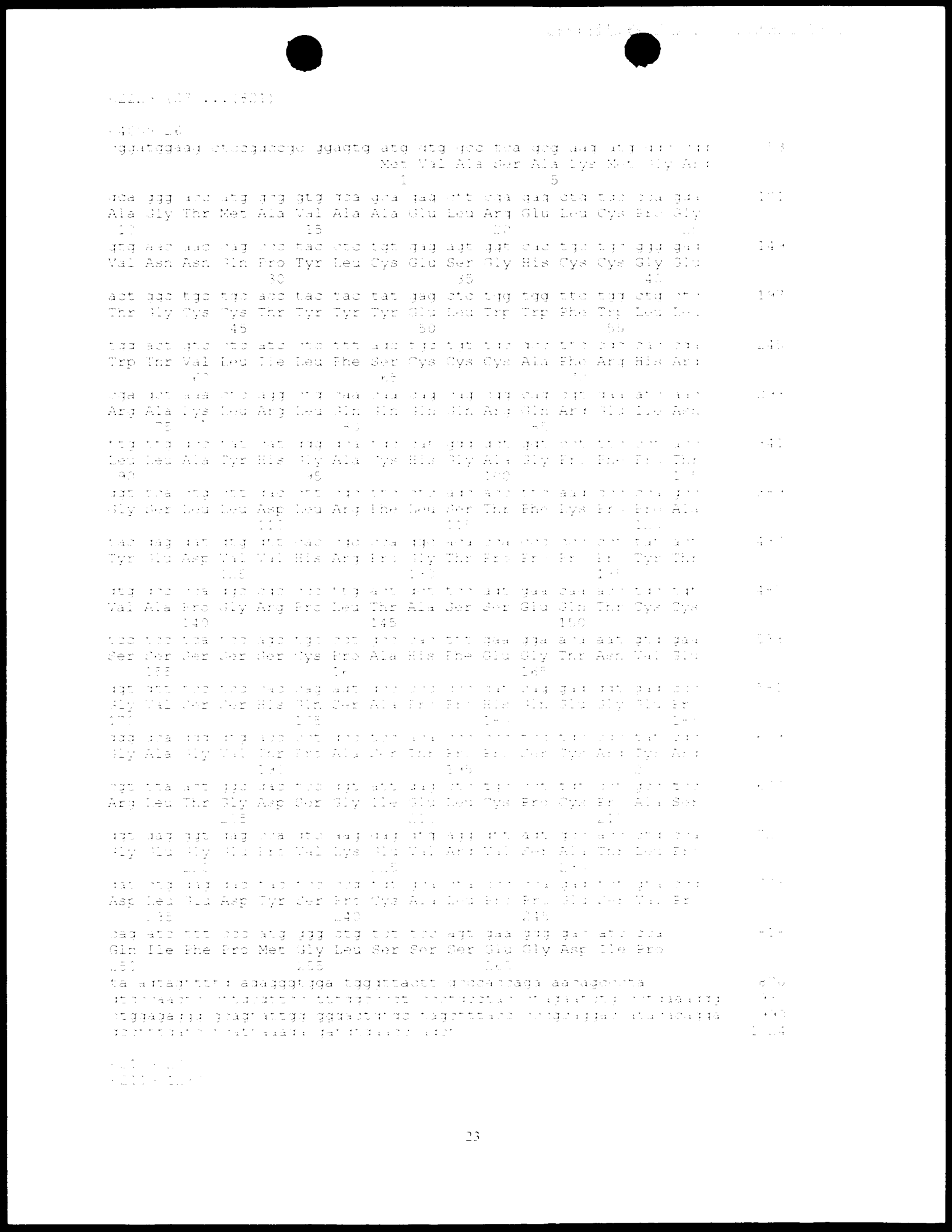

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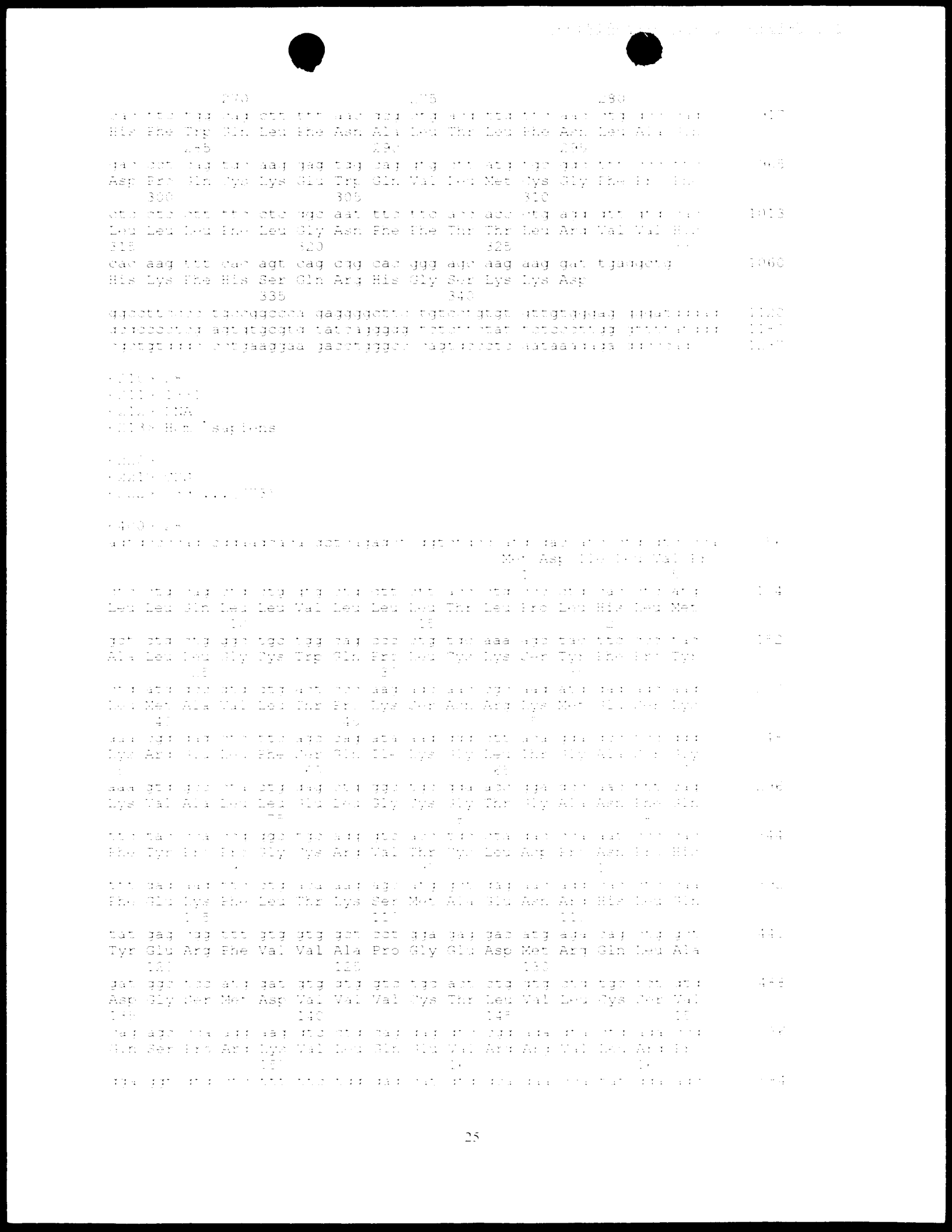

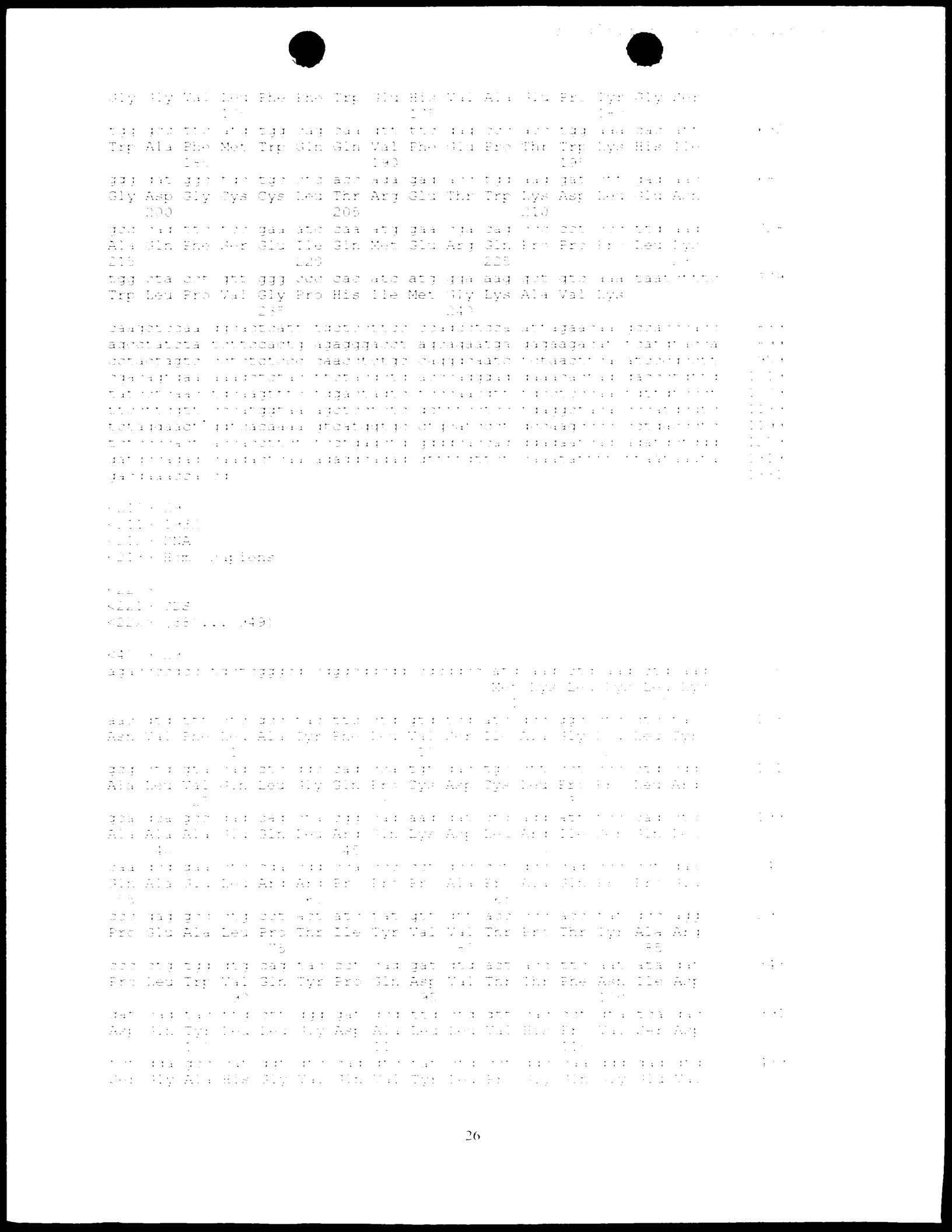

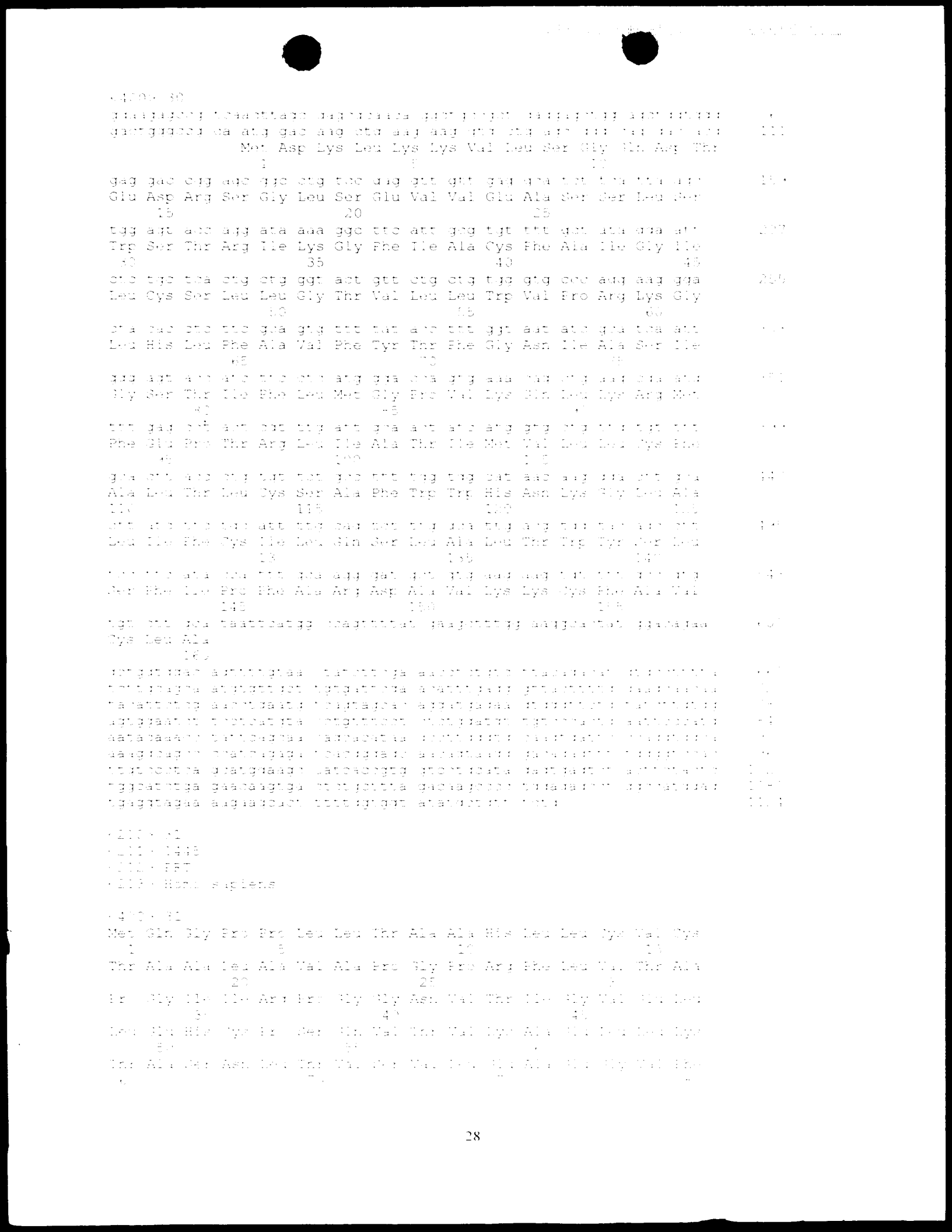

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Thr Val Ala Leu Lys Ala Leu Ser Glu Phe Ala Ala Leu Met Asn Thr
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1330 1335 134
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1365 1370 137
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Val His Ile Glu Trp Ala Lys Lys Asn Thr Ala Arg Ala Tyr His Leu
Gln Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser His Phe Tyr Gly
Asn Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg Gln Val Thr Val
Lys Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala Val Thr Val Tyr
Met Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly Val Glu Ser Pro
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(iii) NUMBER OF SEQUENCES: 1

(iv) SOFTWARE: PatentIn Version 2.1

(v) CURRENT APPLICATION DATA:

(vi) PRIOR APPLICATION DATA:

(2) INFORMATION FOR SEQ ID NO: 1:

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Tyr Ala Leu Pro Gly Ala Pro Ala Asn Thr Ser His Gln Asp Val Trp
Leu Glu Ala His Leu Pro Arg Glu Pro Asp Gly Thr Leu Ser Thr Cys
Leu Arg Phe Ala Tyr Pro Gln Ala Leu Pro Asn Thr Thr Leu Gly Glu
Glu Arg Gln Ser Arg Gly Glu Leu Glu Asp Glu Pro Ala Thr Val Pro
Tyr Thr Gln Gly Trp Glu Tyr Asp His Thr Glu Phe Thr Thr Ile
Ala Thr Glu Ser Gln Val Gly Ile Tyr Ile Ile His Leu Tyr Val Glu
Cys Arg Trp Arg Gln Ser Pro Trp Glu Ala Ala Gly Arg Asp Lys Val Thr Tyr
Ser Pro Thr Trp Arg Glu Ser Leu Gly Gly Leu Leu Ser Gly Met Glu
Trp Asp Leu Val Cys Glu Gln Lys Gly Leu Asn Arg Ala Ala Thr
Phe Thr Ile Ala Gly Val Leu Val Gly Ala Val Ala Leu Gly Tyr Leu
Ser Asp Arg Phe Gly Arg Arg Arg Leu Leu Leu Val Ala Tyr Val Ser
Thr Leu Val Leu Gly Leu Ala Ser Ala Ala Ser Val Ser Tyr Val Met
Phe Ala Ile Thr Arg Thr Leu Thr Gly Ser Ala Leu Ala Gly Phe Thr
Ile Ile Val Met Pro Leu Glu Leu Glu Trp Leu Asp Val Glu His Arg
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Leu Leu Ala Leu Val Gly Tyr Leu Ile Arg Asp Trp Arg Trp Leu Leu

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Ser Trp Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val Tyr Thr
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Cys Ala Ser Phe Met Ser Phe Gly Val Lys Arg Arg Trp Phe Ala Leu
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Pro Gly Val Ile Gly Tyr Leu Pro His Leu Cys Gly Leu Leu Thr Ala
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Cys Thr Ala Ala Pro Cys His Ala Ala His

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Pro Lys Ser Arg Ile Thr Ala Met Leu Asp Asp Val Lys Ile Ile Ala
Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
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Ser Phe Tyr Asp Leu Ser Leu Gln Thr Ser Glu Ile Lys Glu Glu Glu
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Val Lys Asn Met Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
Glu Glu Lys Glu Leu Leu Gln Leu Gln Ile Lys Val Lys Tyr Leu Glu Glu Gln
Leu Thr Asn Leu Ile Gln Asn Gln Pro Glu Thr Pro Glu His Pro Glu
Val Thr Ser Leu Lys Thr Phe Val Glu Lys Gln Asp Asn Ser Ile Lys
Asp Leu Leu Gln Thr Val Glu Asp Gln Tyr Lys Gln Leu Asn Gln Gln
His Ser Ile Ile Lys Glu Ile Glu Asn Gln Leu Arg Arg Val Ile
Gln Glu Pro Thr Gln Ile Ser Leu Ser Ser Lys Pro Arg Ala Pro Arg
Thr Thr Pro Phe Leu Gln Leu Asn Glu Ile Arg Asn Val Lys His Asp
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Ser Gly Met Tyr Ala Ile Arg Pro Ser Asn Ser Gln Val Phe His Val
Tyr Tyr Asp Val Ile Ser Gly Ser Pro Trp Thr Leu Ile Gln His Arg
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Gly Phe Gly Arg Leu Asp Gly Glu Phe Trp Leu Gly Leu Glu Lys Ile
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Phe Leu Ile Ala Tyr Leu Leu Val Arg Phe Leu Glu Trp Gly Leu Arg
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Ser Gln Leu Gln Ser Met Gln Thr Glu Ser Lys Gly Ile Ser Gly Asn
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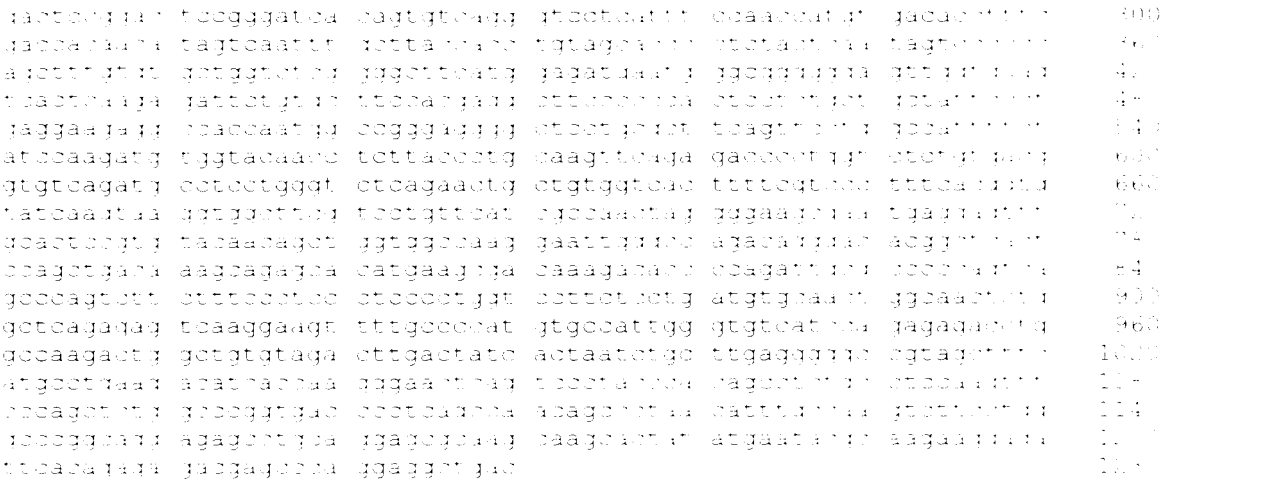

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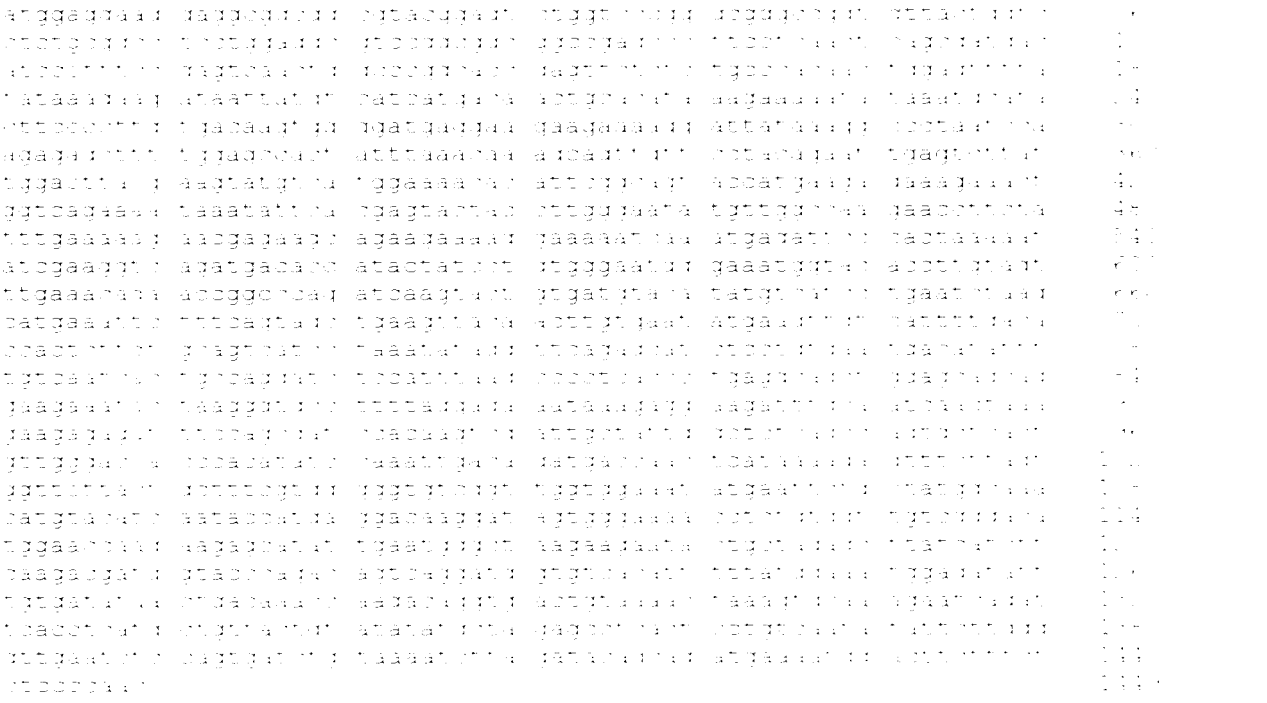

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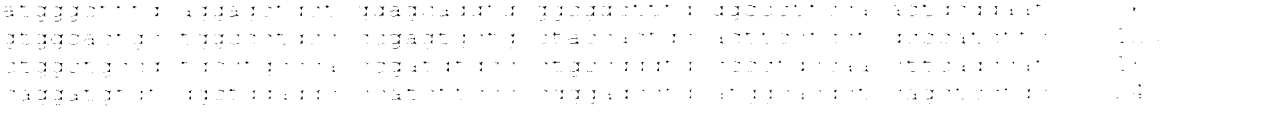

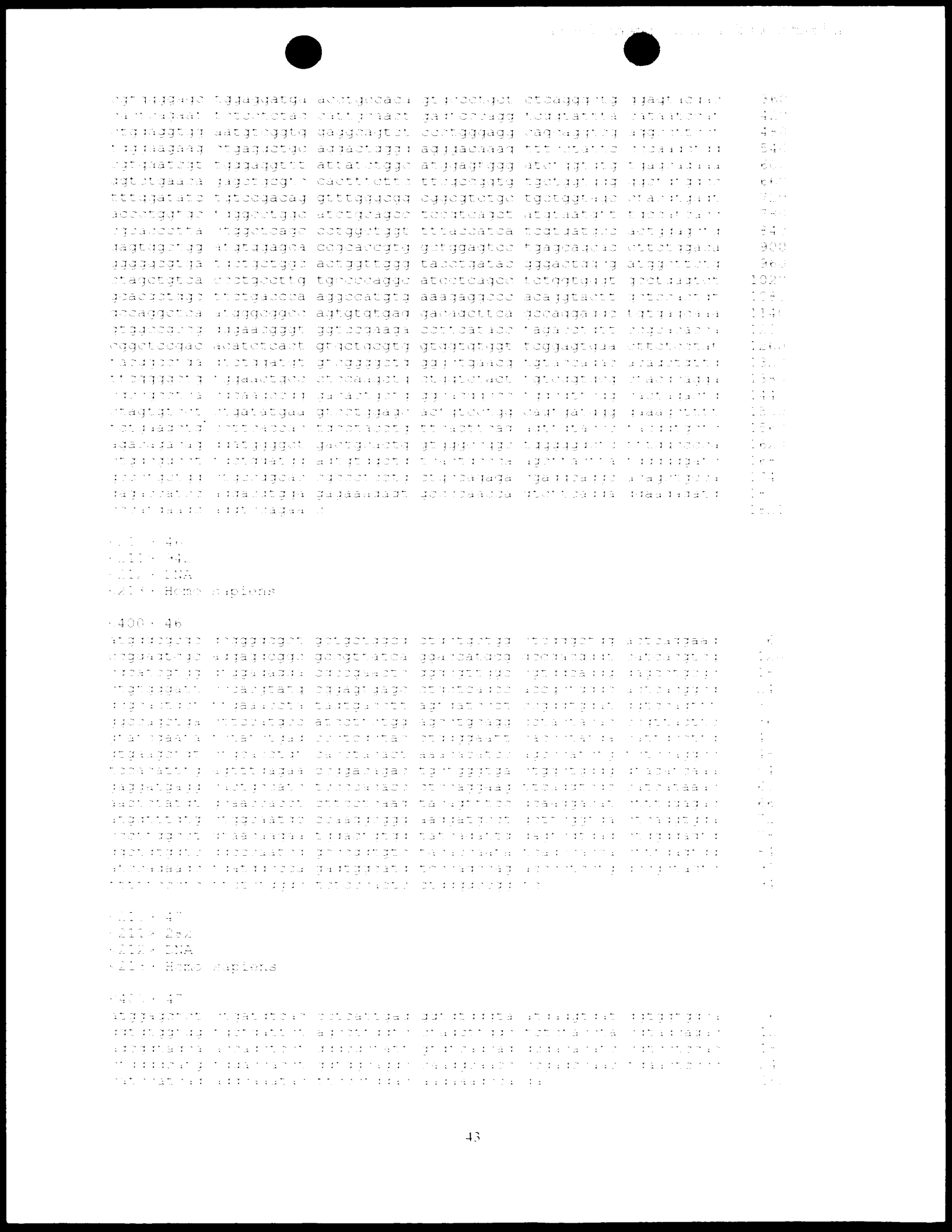

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<212> DNA
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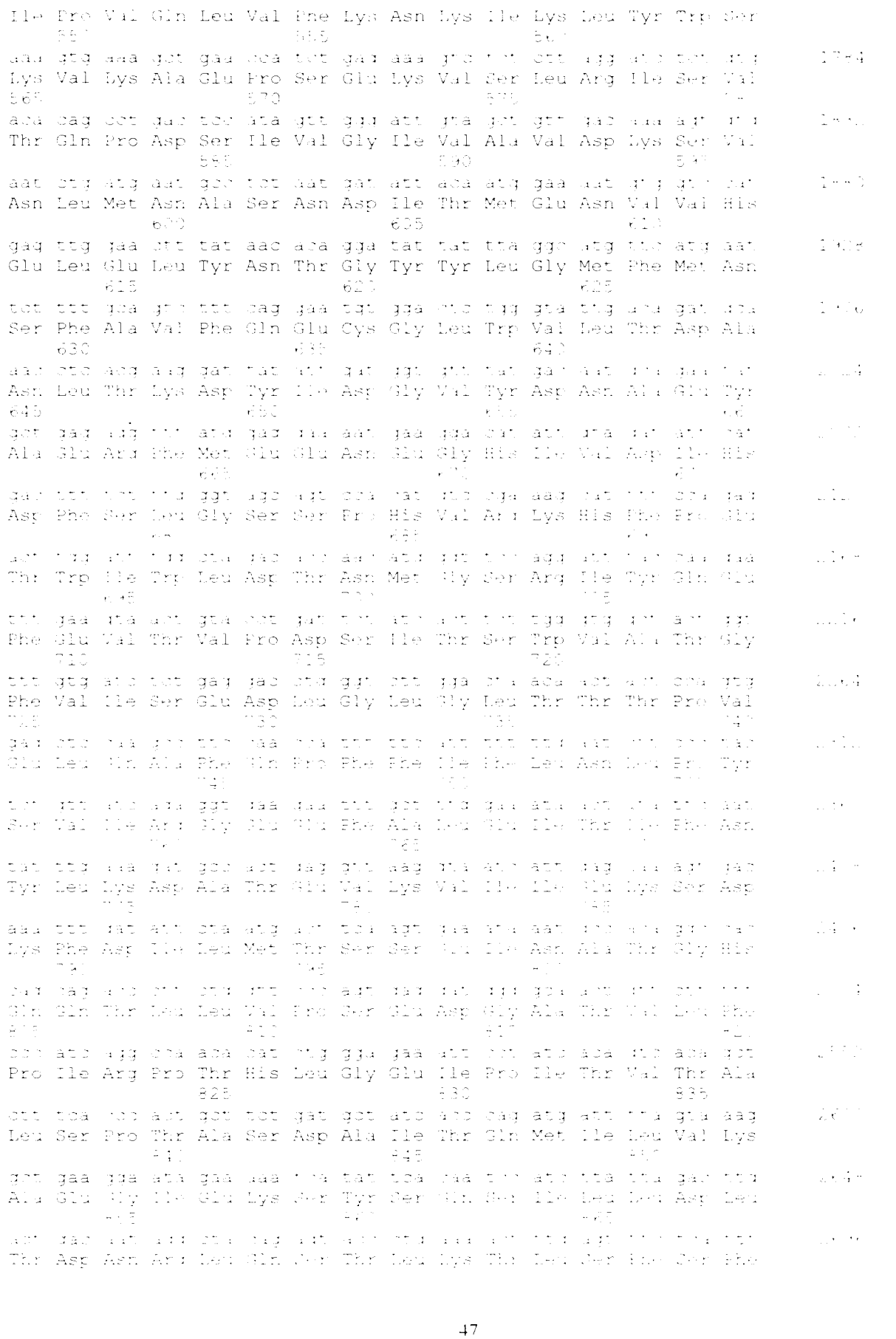

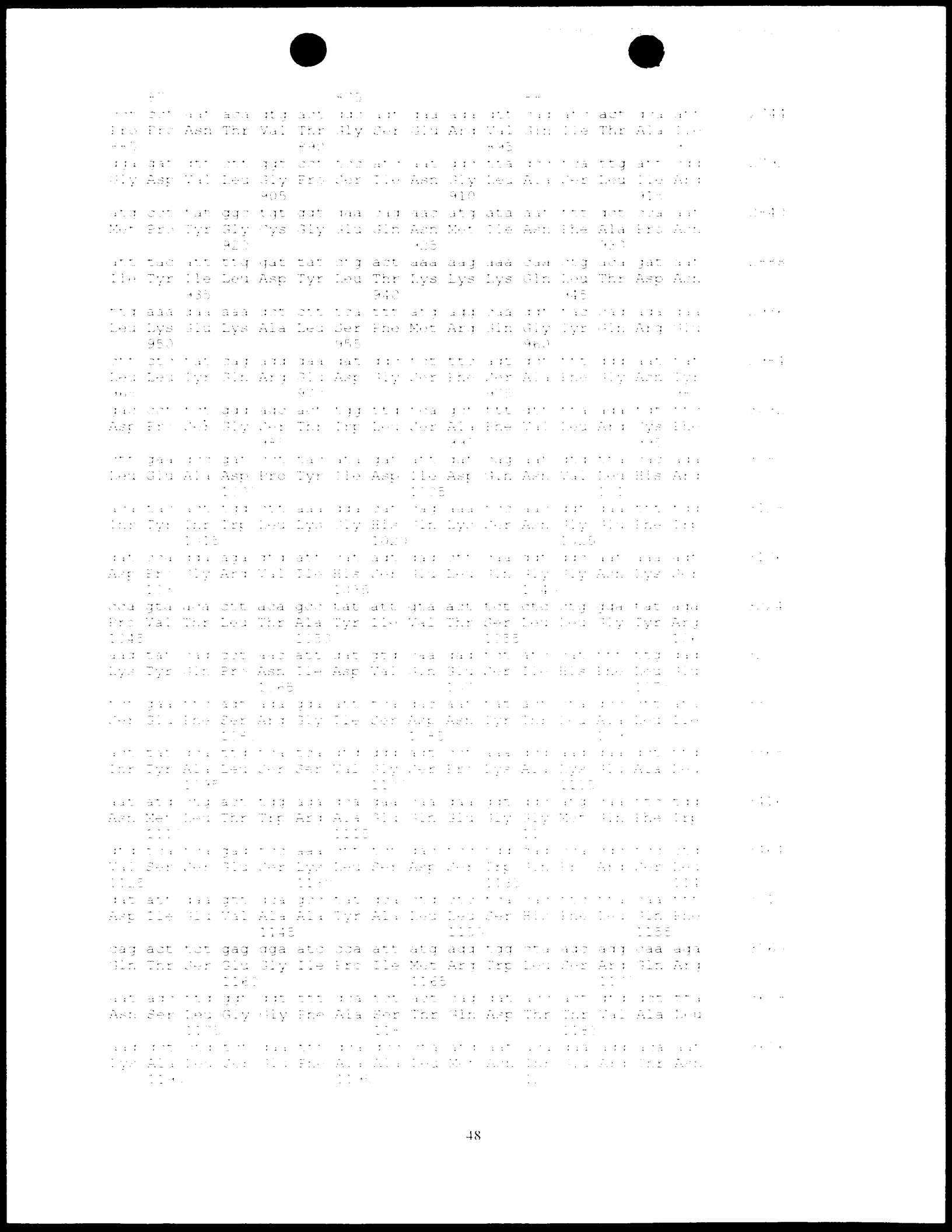

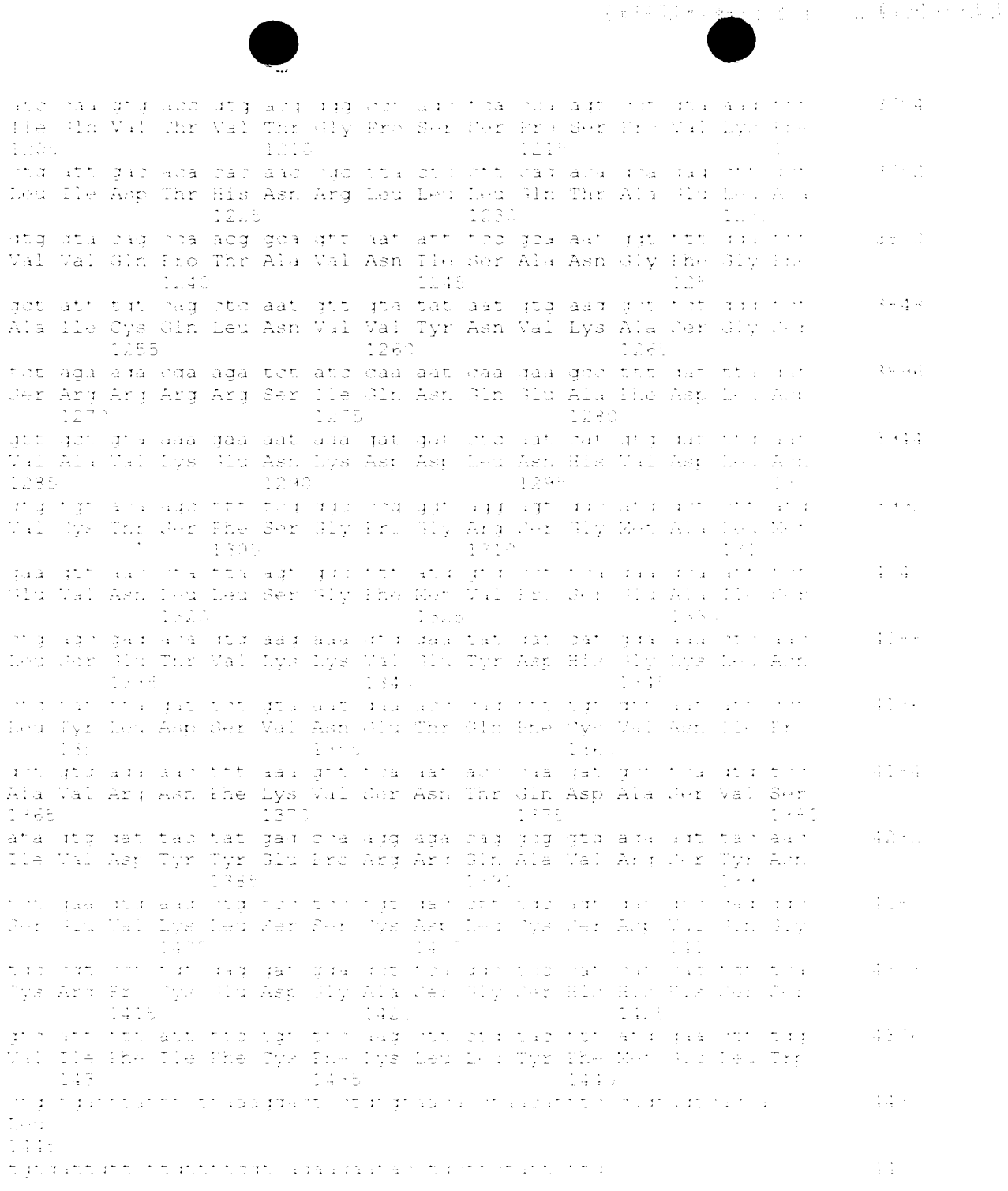

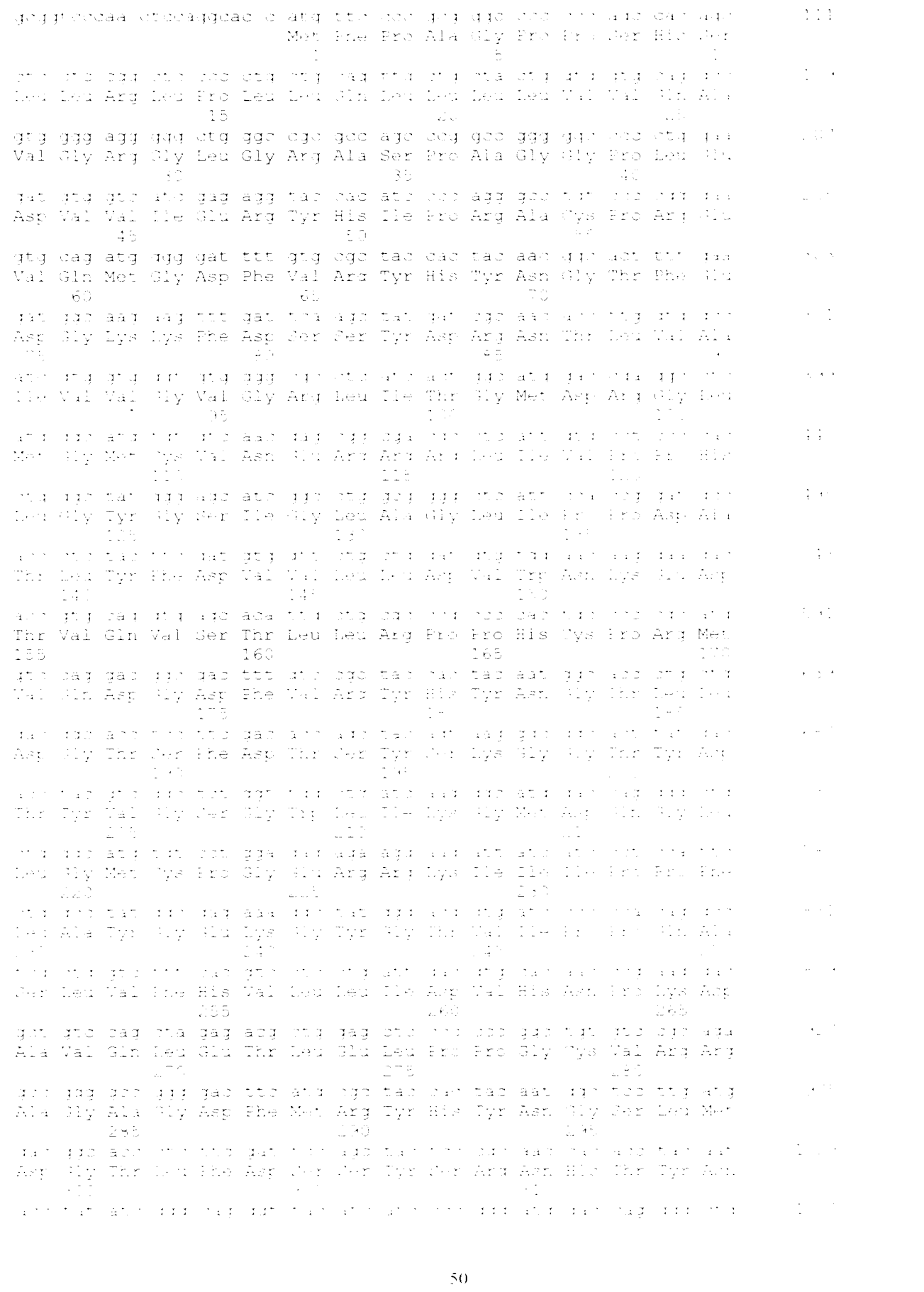

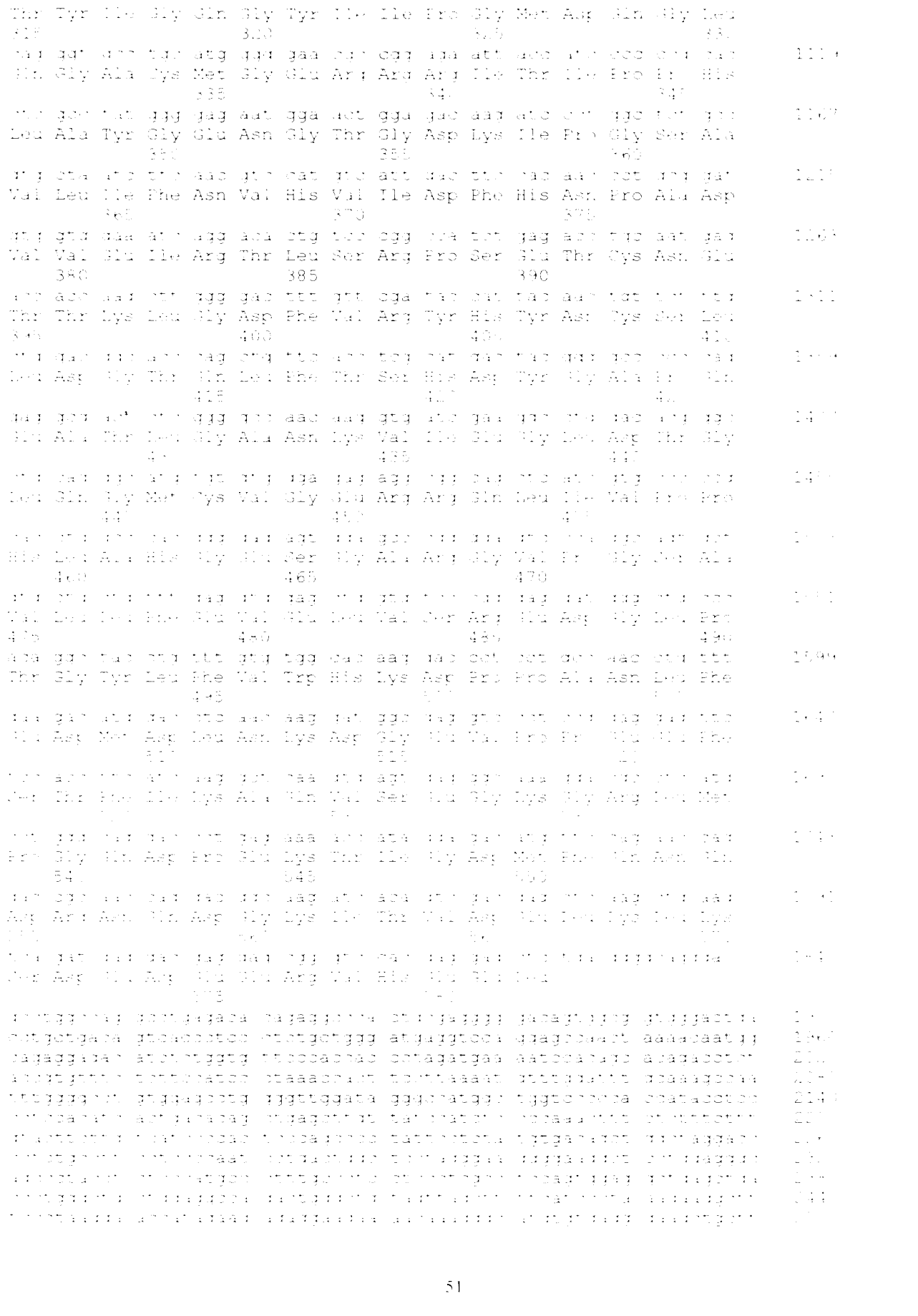

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1 5

[illegible]
Pro Glu Arg Leu Phe Asp Ser His Arg Leu Pro Gly Asp Cys Phe Leu
10 15 20

[illegible]
Leu Leu Val Leu Leu Leu Tyr Ala Pro Val Gly Phe Cys Leu Leu Val
25 30 35 40

[illegible] gg[illegible] atc cac gt[illegible] [illegible]
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45 50 55

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60 65 70

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90 95 100

[illegible]
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105 110 115 120

[illegible]
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[illegible]
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140 145 150

[illegible]
Pro Thr Pro Leu Leu Leu Phe Pro Glu Glu Glu Ala Thr Asn Gly Arg
155 160 165

[illegible]
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170 175 180

gta caa cct ctt acc ct[illegible] caa gtt ca[illegible] aga [illegible] [illegible] gt[illegible] [illegible] [illegible] ac[illegible] [illegible]
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185 190 195 200

[illegible] tca gat [illegible] [illegible] [illegible] gtc tca [illegible] [illegible] [illegible] [illegible] tca [illegible] [illegible] [illegible] [illegible]
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220 225 230

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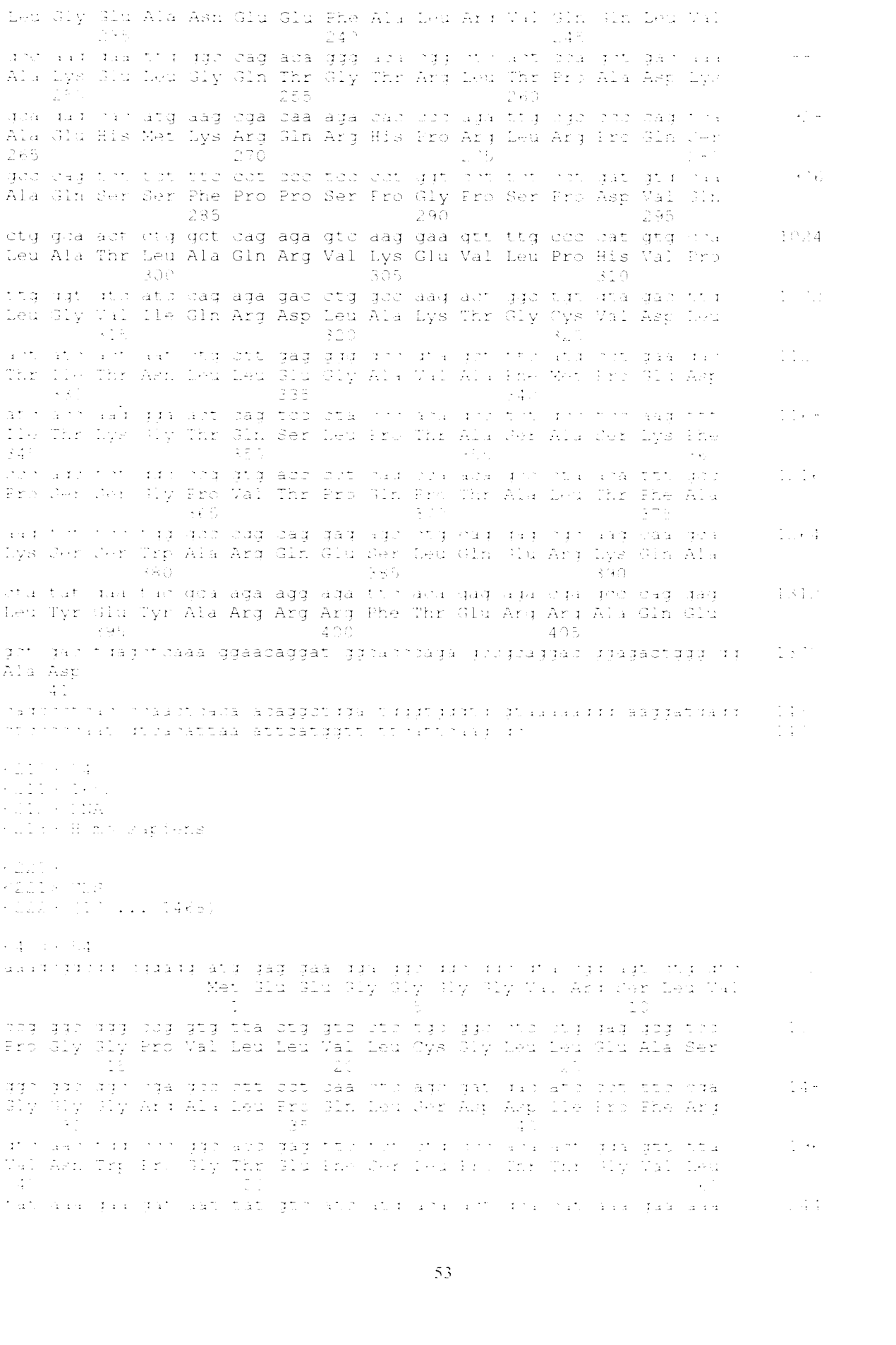

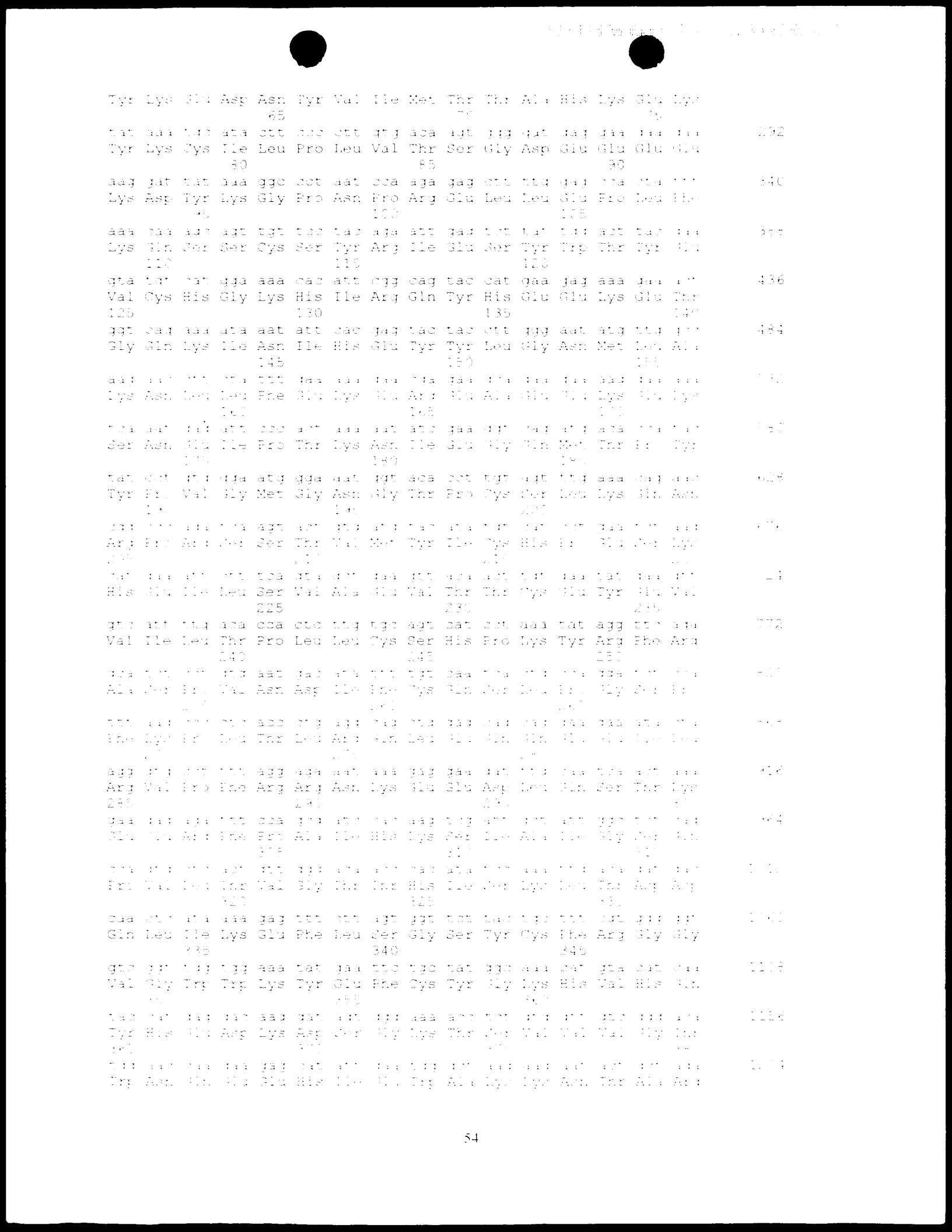

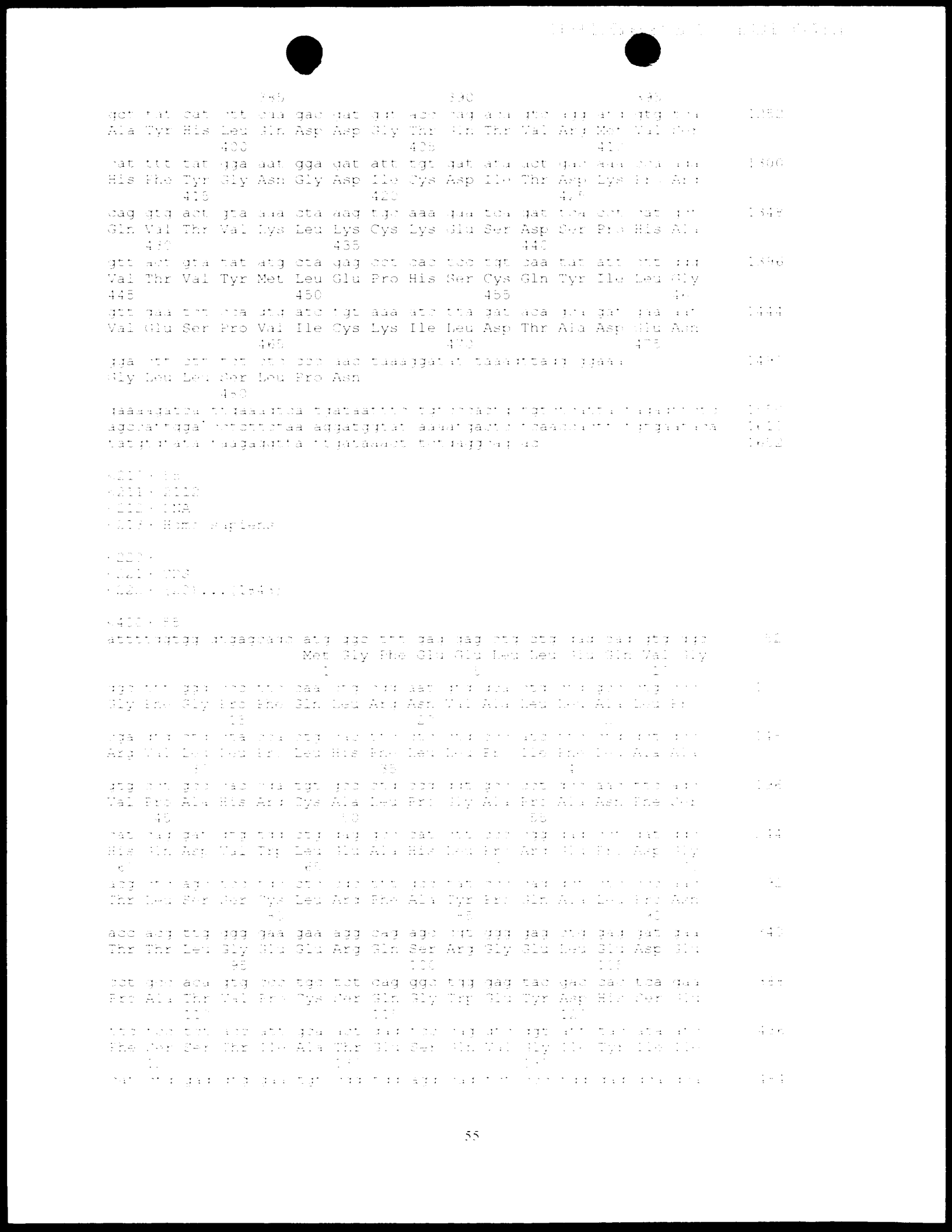

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His Leu Glu Val Glu Cys Arg Trp Arg Gln Ser Pro Trp Glu Ala Ala
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Gly Arg Gly Leu Pro Trp Glu Glu Ala Glu Ala Ala Gly Leu Gly Arg
160 165 170

gac aaa gtt tcc tat tcc cca agc tgg cgt gaa tcg ttg gga ggt tta 580
Asp Lys Val Ser Tyr Ser Pro Ser Trp Arg Glu Ser Leu Gly Gly Leu
175 180 185

tta tct ggc atg gag tgg gat ctg gtg tgt gag cag aaa ggt ctg aac 628
Leu Ser Gly Met Glu Trp Asp Leu Val Cys Glu Gln Lys Gly Leu Asn
190 195 200

aga gct gcg tcc act ttc ttc ttc gcc ggt gtg ctg gtg ggg gct gtg 676
Arg Ala Ala Ser Thr Phe Phe Phe Ala Gly Val Leu Val Gly Ala Val
205 210 215

gcc ttt gga tat ctg tcc gac agg ttt ggg cgg cgg cgt ctg ctg ctg 724
Ala Phe Gly Tyr Leu Ser Asp Arg Phe Gly Arg Arg Arg Leu Leu Leu
220 225 230 235

gta gcc tac gtg agt acc ctg gtg ctg ggc ctg gca tct gca gcc tcc 772
Val Ala Tyr Val Ser Thr Leu Val Leu Gly Leu Ala Ser Ala Ala Ser
240 245 250

gtc agc tat gta atg ttt gcc atc acc cgc acc ctt act ggc tca gcc 820
Val Ser Tyr Val Met Phe Ala Ile Thr Arg Thr Leu Thr Gly Ser Ala
255 260 265

ctg gct ggt ttt acc atc atc gtg atg cca ctg gag ctg gag tgg ctg 868
Leu Ala Gly Phe Thr Ile Ile Val Met Pro Leu Glu Leu Glu Trp Leu
270 275 280

gat gtg gag cac cgc acc gtg gct gga gtc ctg agc agc acc ttc tgg 916
Asp Val Glu His Arg Thr Val Ala Gly Val Leu Ser Ser Thr Phe Trp
285 290 295

aca ggg ggc gtg atg ctg ctg gca ctg gtt ggg tac ctg ata cgg gac 964
Thr Gly Gly Val Met Leu Leu Ala Leu Val Gly Tyr Leu Ile Arg Asp
300 305 310 315

tgg cga tgg ctt ctg cta gct gtc acc ctg cct tgt gcc cca ggc atc 1012
Trp Arg Trp Leu Leu Leu Ala Val Thr Leu Pro Cys Ala Pro Gly Ile
320 325 330

ctc agc ctc tgg tgg gtg cct gag tct gca cgc tgg ctt ctg acc caa 1060
Leu Ser Leu Trp Trp Val Pro Glu Ser Ala Arg Trp Leu Leu Thr Gln
335 340 345

ggc cat gtg aaa gag gcc cac agg tac ttg ctc cac tgt gcc agg ctc 1108
Gly His Val Lys Glu Ala His Arg Tyr Leu Leu His Cys Ala Arg Leu
350 355 360

aat ggg cgg cca gtg tgt gag gac agc ttc agc cag gag gct gtg agc 1156
Asn Gly Arg Pro Val Cys Glu Asp Ser Phe Ser Gln Glu Ala Val Ser
365 370 375

aaa gtg gcc gcc ggg gaa cgg gtg gtc cga aga ccc tca tac cta gac 1204
Lys Val Ala Ala Gly Glu Arg Val Val Arg Arg Pro Ser Tyr Leu Asp
380 385 390 395

ctg ttc cgc aca cca cgg ctt cga cac atc tca ctg tgc tgc gtg gtg 1252
Leu Phe Arg Thr Pro Arg Leu Arg His Ile Ser Leu Cys Cys Val Val
400 405 410

gtg tgg ttc gga gtg aac ttc tcc tat tac ggc ctg agt ctg gat gtg 1300
Val Trp Phe Gly Val Asn Phe Ser Tyr Tyr Gly Leu Ser Leu Asp Val
415 420 425

tcg ggg ctg ggg ctg aac gtg tac cag aca cag ctg ttg ttc ggg gct 1348
Ser Gly Leu Gly Leu Asn Val Tyr Gln Thr Gln Leu Leu Phe Gly Ala
430 435 440

gtg gaa ctg ccc tcc aag ctg ctg gtc tac ttg tcg gtg cgc tac gca 1396
Val Glu Leu Pro Ser Lys Leu Leu Val Tyr Leu Ser Val Arg Tyr Ala
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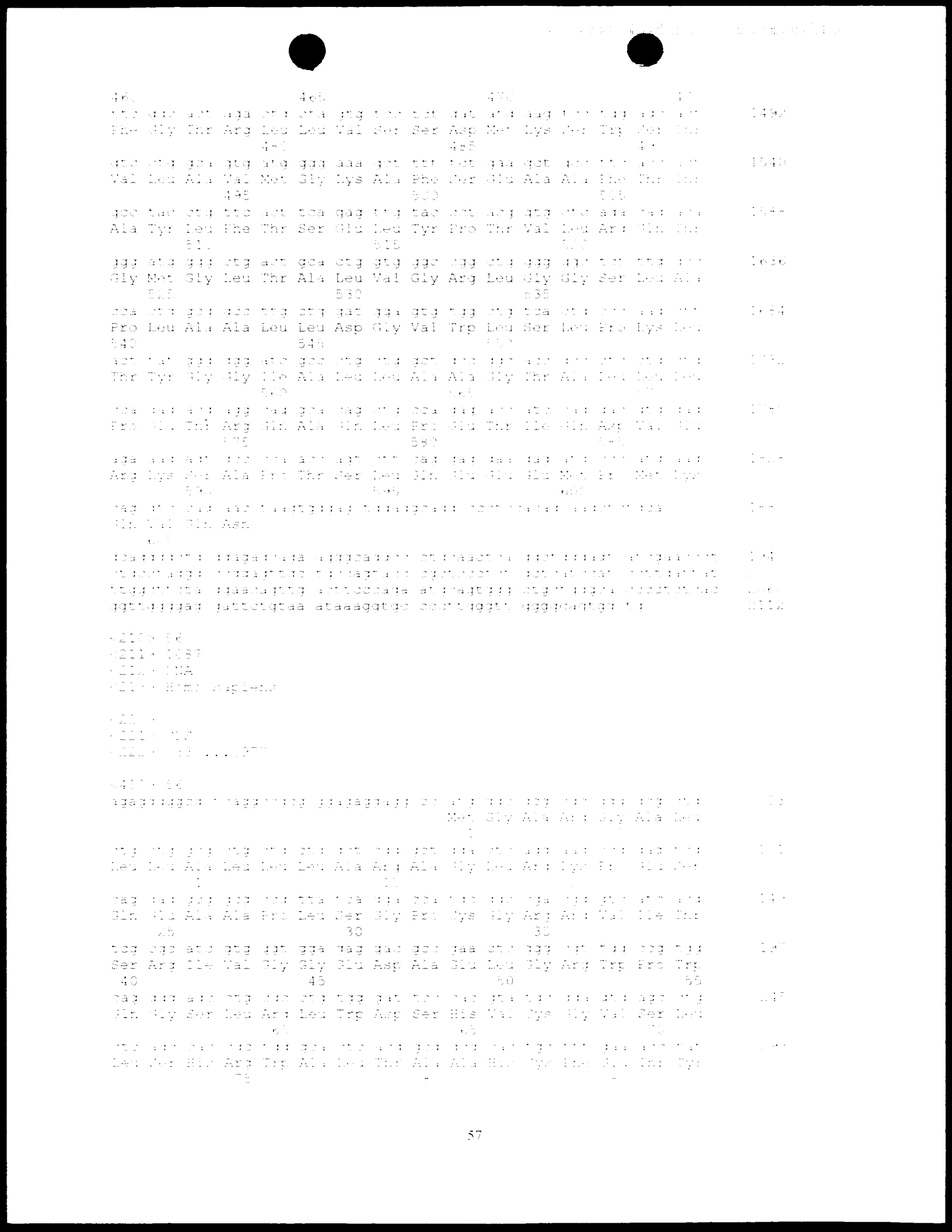

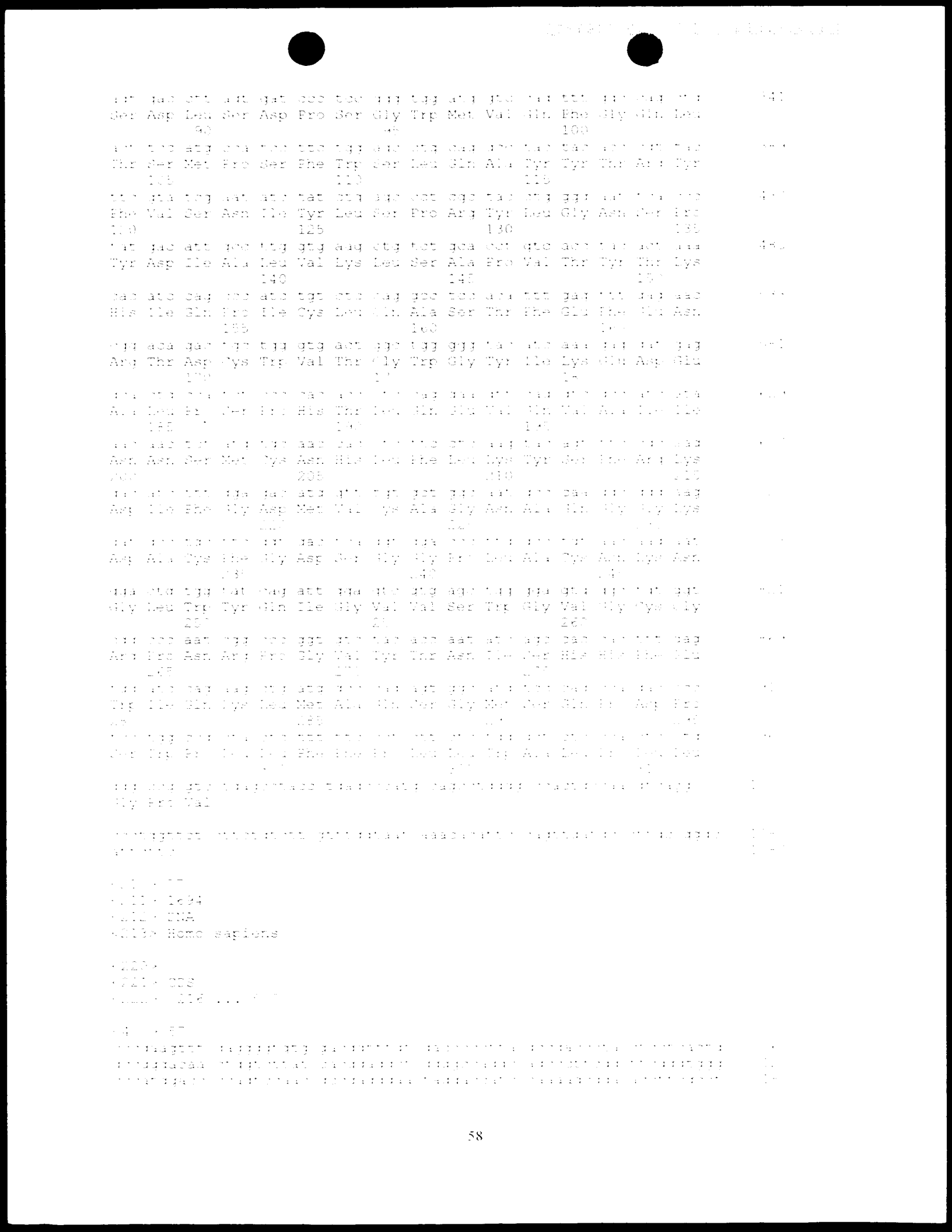

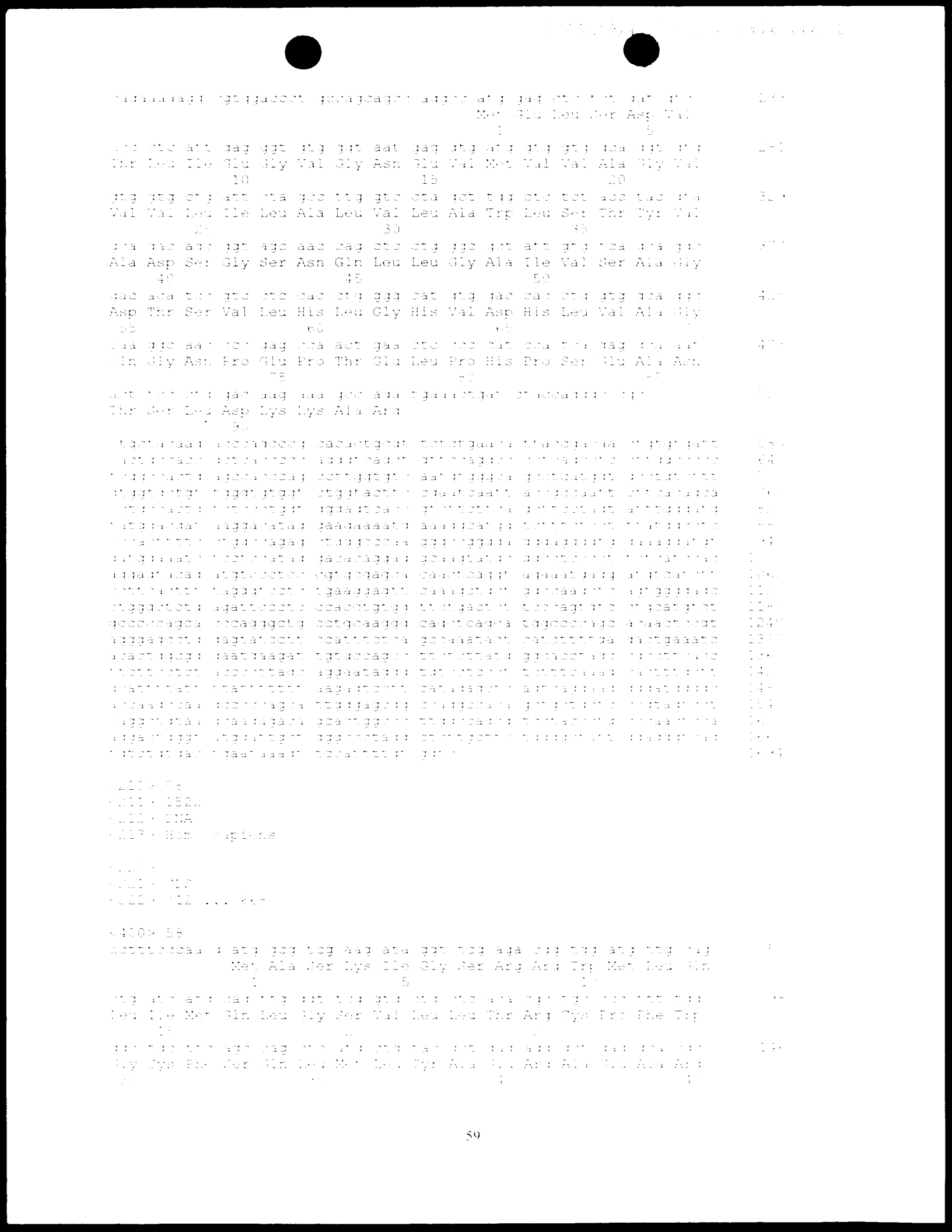

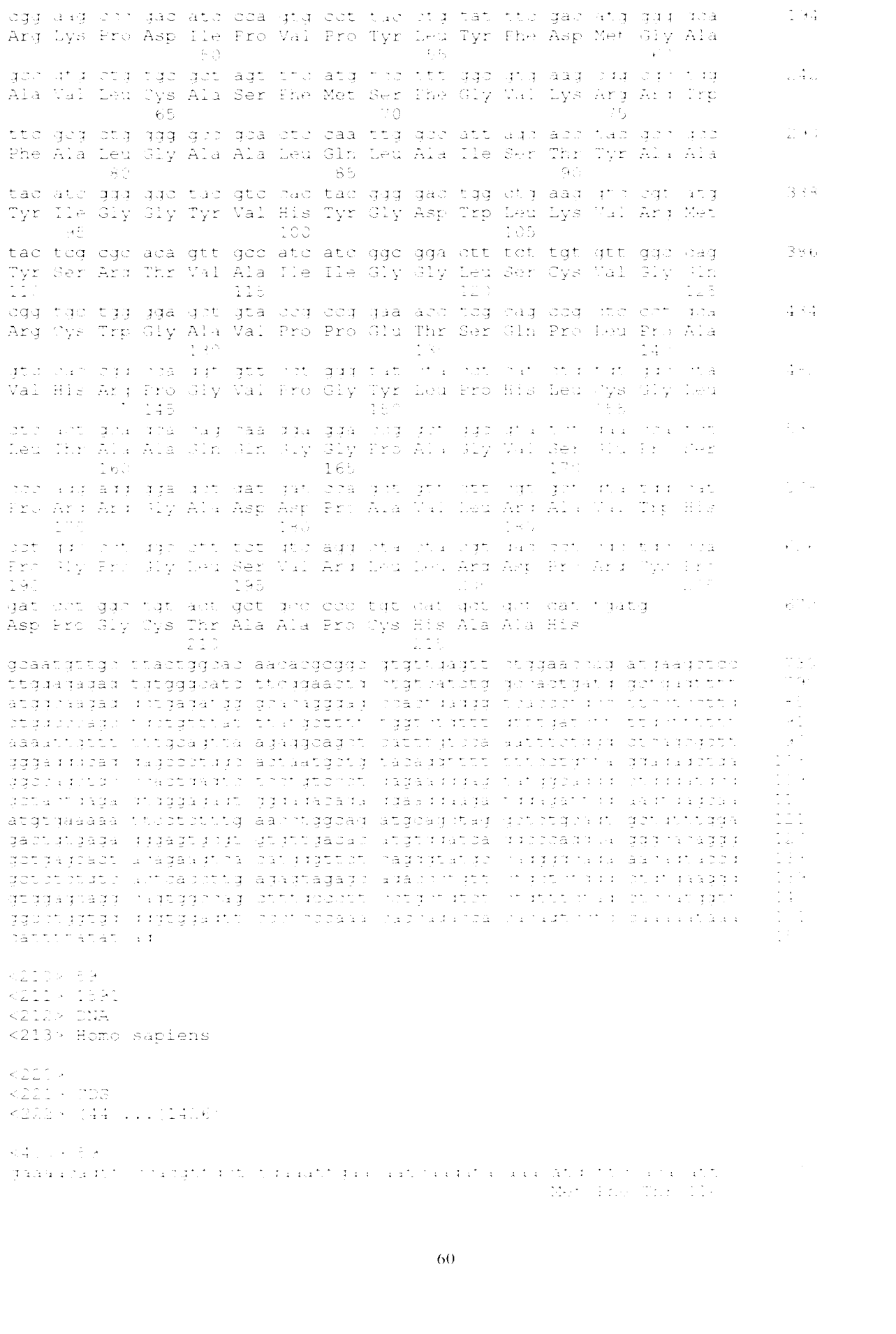

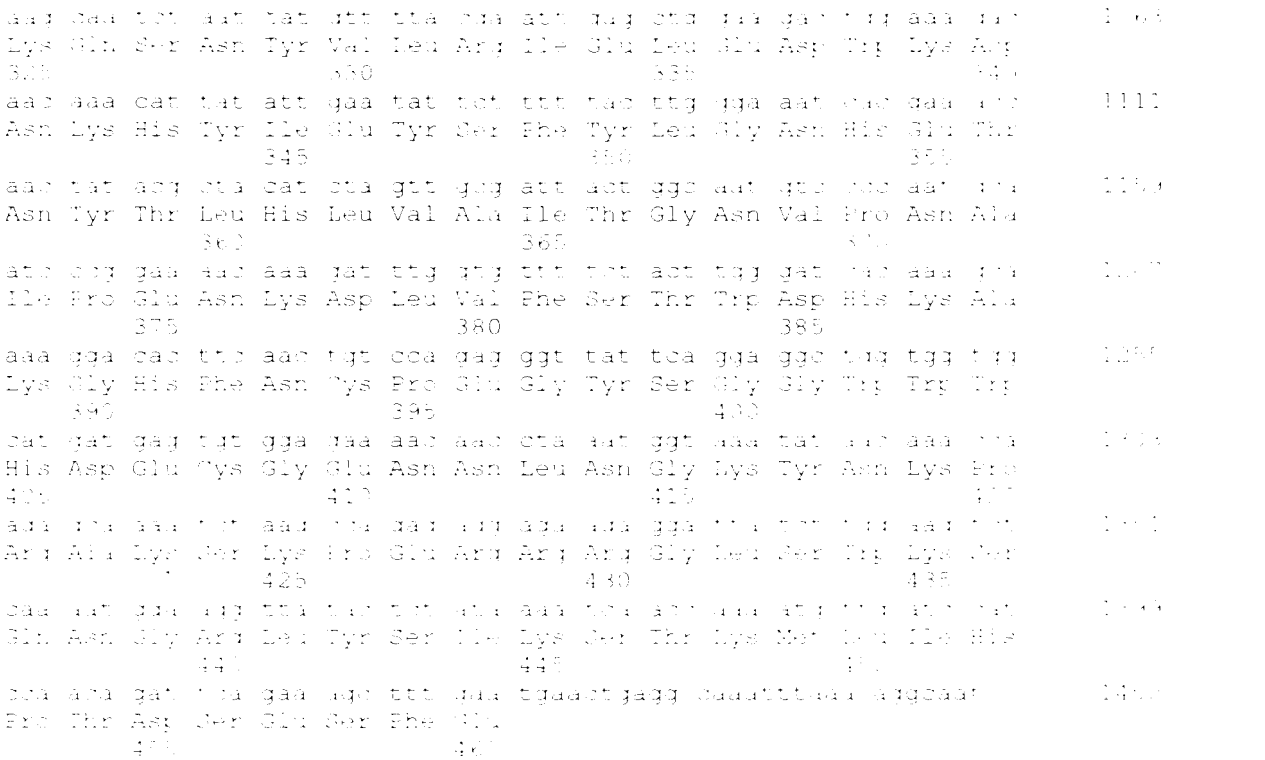

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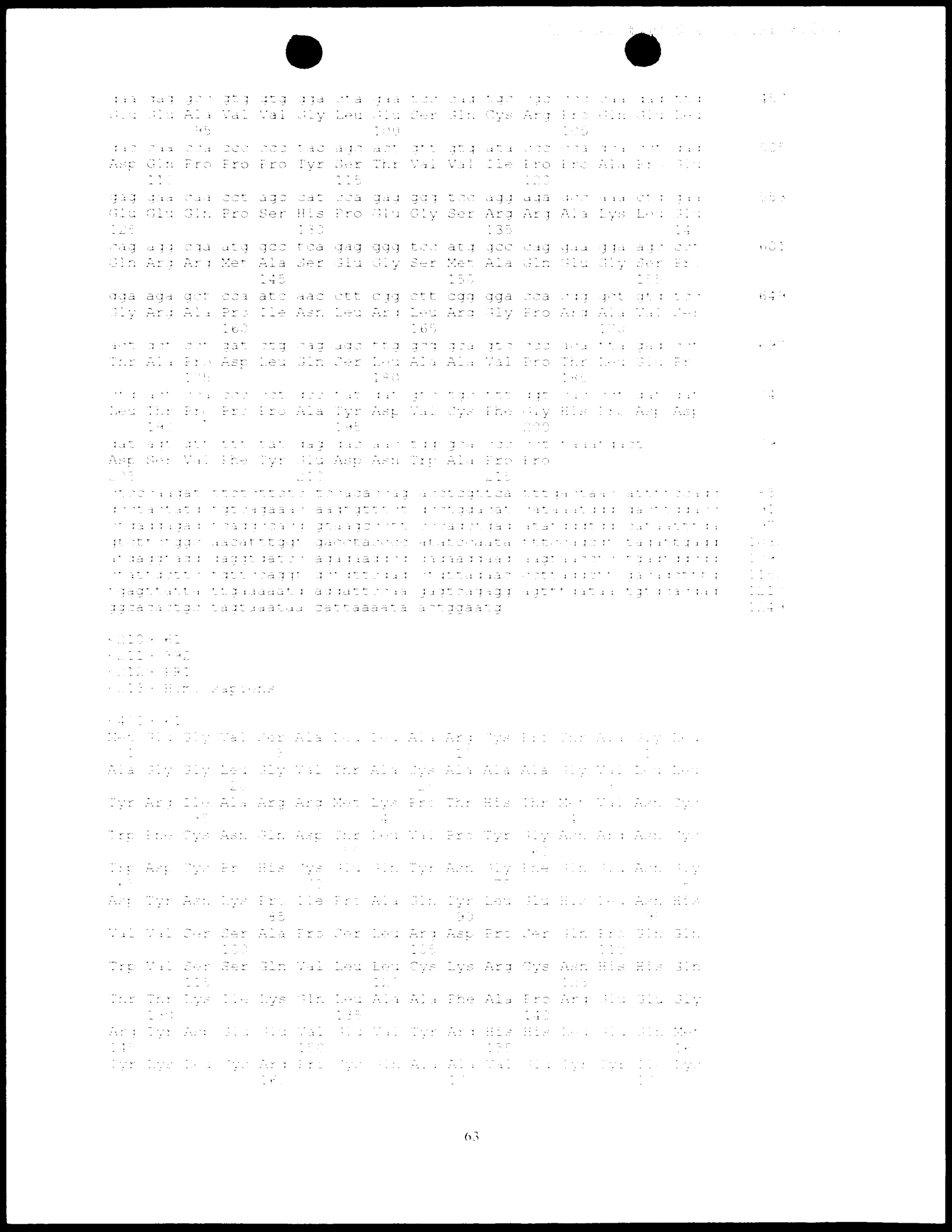
<222> (134)...(744)

<400> 62



His Gln Asn Arg Gln Leu Arg Ala Leu Leu Leu Ser His Gln Ile Lys
Arg Arg Glu Ala Asp Gln Thr His Ala Gln Asn Phe Ser Ser Ala Val
Lys Ser Pro Val Gln Val Ile Leu Leu Arg Ala Leu Ala Phe Leu Ala
Cys Ala Phe Leu Leu Thr Thr Ala Leu Tyr Gly Ala Ser Gly His Leu
Ala Pro Gly Thr Thr Val Pro Leu Ala Leu Pro Pro Gly Gly Asn Gly
Ser Ala Thr Pro Asp Asn Gly Thr Thr Pro Gly Ala Glu Gly Trp Arg
Gln Leu Leu Gly Leu Leu Pro Glu His Met Ala Glu Lys Leu Cys Gln
Ala Trp Ala Phe Gly Gln Ser His Gln Thr Gly Val Val Ala Leu Gly
Leu Leu Thr Cys Leu Leu Ala Met Leu Leu Ala Gly Arg Ile Arg Leu
Arg Arg Ile Asp Ala Ile Cys Thr Lys Leu Trp Ala Leu Leu Leu Gly
Leu His Leu Ala Glu Gln His Leu Thr Ala Ala Ser Pro Ser Trp Leu
Asp Thr Leu Lys Phe Ser Thr Thr Ser Leu Tyr Leu Val Lys Leu
Thr Ala Ala Val Ala Thr Arg Lys Ala Thr Gly Pro Arg Arg Phe Arg
Pro Arg Arg Ser Glu Lys Gln Pro

(210) No.
(211) 417
(212) DNA
(213) Homo sapiens

(400) 42
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Arg Ala Leu Trp Ser Ser Leu Cys Leu Gly Pro Ala Pro Ala Ala Pro
Gly Pro Val Ser Pro Val Gly Ser Arg Leu Ala Ala Ala Trp Asp Ala Leu
Ile Val Arg Pro Val Arg Arg Trp Arg Arg Val Ala Val Gly Val Asn
Ala Tyr Val Asp Val Val Leu Ser Gly Val Lys Leu Leu Val Ala Leu
Gly Leu Ser Pro Gly Asn Gly Lys Asp His Ser Leu Leu His Ser Arg
Asn Asp Leu Glu Glu Ala Phe Glu His Phe Met Trp Lys Gly Ala Ala
Ala Glu Arg Phe Phe Ser Asp Lys Glu Thr Phe His Asp Ile Ala Gln
Val Ala Ser Glu Phe Pro Gly Ala Gln His Tyr Val Gly Gly Asn Ala
Ala Leu Leu Gly Gln Lys Phe Ala Ala Asn Ser Asp Leu Lys Val Leu
Leu Tyr Gly Pro Val Pro Gly Pro Arg Leu His Leu Leu Asp Asp Asn
Val Phe Val Pro Pro Glu Ser Leu Val Glu Val Arg Gly Leu His Leu

130 135 140

Asn Val Gln Ile Pro Leu Leu Leu Gly Gln Leu Val Glu Val Val Ala
145 150 155 160
Lys Tyr Thr Arg Asp His Val Gly Ser Phe Met Thr Glu Ser Gln Asn
165 170 175
Leu Ser Thr His Leu Leu Ile Leu Tyr Gly Val Gln Gly Leu Leu Thr
180 185 190
Phe Gly Tyr Leu Val Leu Leu Ser His Val Gly Glu Arg Met Ala Val
195 200 205
Asp Met Arg Arg Ala Leu Phe Ser Ser Leu Leu Arg Tyr Cys Gln Pro
210 215 220
Gln Gly Ala Glu Leu Gly Gln Asp Ile Thr Phe Phe Asp Ala Asn Lys
225 230 235 240
Thr Gly Gln Leu Val Ser Arg Leu Thr Thr Asp Val Gln Glu Phe Lys
245 250 255
Ser Ser Phe Lys Leu Val Ile Ser Gln Gly Leu Arg Ser Cys Thr Gln
260 265 270
Val Ala Gly Cys Leu Val Ser Leu Ser Met Leu Ser Thr Arg Leu Thr
275 280 285
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290 295 300
Met Gly Ser Gly Leu Arg Lys Leu Ser Cys Gln Cys Gln Glu Gln Ile
305 310 315 320
Ala Arg Ala Met Gly Val Ala Asp Glu Ala Leu Gly Asn Val Arg Thr
325 330 335
Val Arg Ala Phe Ala Met Glu Gln Arg Glu Glu Glu Arg Tyr Gly Ala
340 345 350
Glu Leu Glu Ala Cys Arg Cys Arg Ala Glu Glu Leu Gly Arg Gly Ile
355 360 365
Ala Leu Phe Gln Gly Leu Ser Asn Ile Ala Phe Asn Cys Met Val Leu
370 375 380
Gly Thr Leu Phe Ile Gly Gly Ser Leu Val Ala Gly Gln Gln Leu Thr
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Gly Gly Asp Leu Met Ser Phe Leu Val Ala Ser Gln Thr Val Gln Arg
405 410 415
Leu

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<213> Homo sapiens

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35 40 45
Ala Ile Val Cys Phe Ala Arg Ser Tyr Asp Gly Asp Phe Val Phe Asp
50 55 60
Asp Ser Glu Ala Ile Val Asn Asn Lys Val Ala Gly Val Val Gly Arg
65 70 75 80
Ala Asp Leu Leu Cys Ala Leu Phe Phe Leu Leu Ser Phe Leu Gly Tyr
85 90 95
Cys Lys Ala Phe Arg Glu Ser Asn Lys Glu Gly Ala His Ser Ser Thr
100 105 110
Phe Trp Val Leu Leu Ser Ile Phe Leu Gly Ala Val Ala Met Leu Cys
115 120 125
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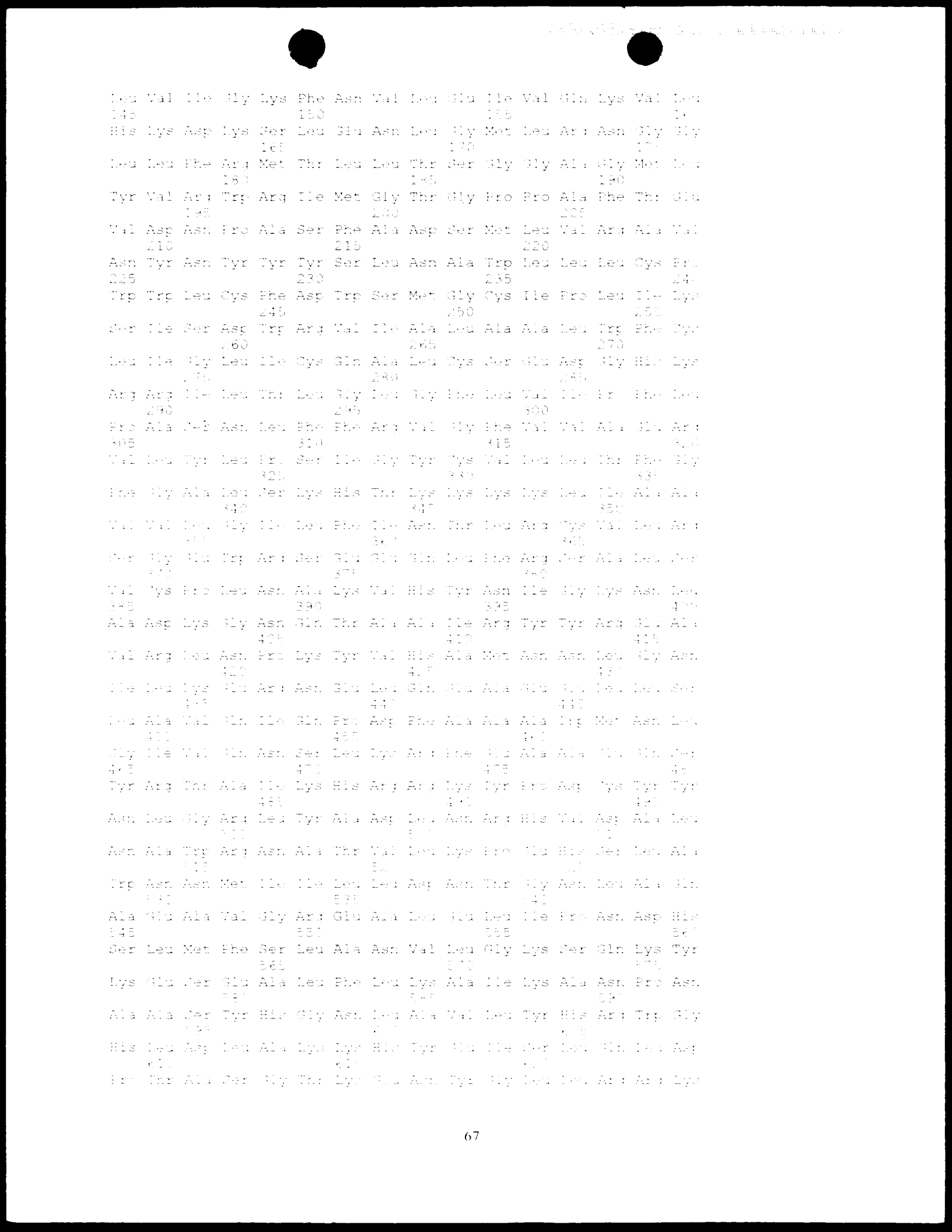
130 135 140



625 630 635 64

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Pro Gly Thr Ser Gly Ser Cys Ser Gly Cys Gly Ser Leu Ser Leu Pro
35 40 45
Leu Leu Ala Gly Leu Val Ala Ala Asp Ala Val Ala Ser Leu Leu Ile
50 55 60
Val Gly Ala Val Phe Leu Cys Ala Arg Pro Arg Arg Ser Pro Ala Gln
65 70 75 80
Glu Asp Gly Lys Val Tyr Ile Asn Met Pro Gly Arg Gly
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<213> Homo sapiens

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20 25 30
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35 40 45
Arg Arg Leu Ala Pro Gly Lys Asp Leu Val Tyr Ile Arg Val Val
50 55 60
Gln Val Leu Gly Met Val Gly Thr Ala Leu Leu Ala Ser Leu Trp Gln
65 70 75 80
His Val Ala Pro Val Ala Gly Pro Leu His Ser Val Ala Leu Ala
85 90 95
Leu Ala Phe Val Leu Ala Ala Leu Ala Cys Cys Ala Ser Asn Val Thr Phe
100 105 110
Leu Pro Phe Leu Ser His Leu Pro Pro Arg Phe Leu Arg Ser Phe Phe
115 120 125
Leu Gly Gln Gly Leu Ser Ala Leu Leu Pro Tyr Val Leu Ala Leu Val
130 135 140
Gln Gly Val Gly Arg Leu Glu Cys Pro Ala Ile Asn Gly Thr
145 150 155 160
Pro Gly Pro Pro Leu Asp Phe Leu Glu Arg Phe Pro Ala Ser Thr Phe
165 170 175
Phe Trp Ala Leu Thr Ala Leu Leu Val Ala Ser Ala Ala Phe Gln
180 185 190
Gly Leu Leu Leu Leu Leu Pro Pro Pro Pro Ser Val Pro Thr Gly Glu
195 200 205
Leu Gly Ser Gly Leu Thr Val Gly Ala Pro Gly Ala Glu Gln Glu Val
210 215 220
Val Gln Ser Ser Pro Leu Gln Glu Pro Ile Gly Ala Ala Gly Thr
225 230 235 240
Thr Pro Gly Pro Asp Pro Lys Ala Tyr Val Ile Leu Ser Ala Arg Ile
245 250 255

Ala Cys Leu Leu Leu Gly Leu Leu Ala Ala Thr Asn Ala Leu Thr Asn Gly
260 265 270
Val Leu Pro Ala Val Gln Ser Phe Ser Cys Leu Pro Tyr Gly Arg Leu
275 280 285
Ala Tyr His Leu Ala Val Val Leu Gly Ser Ala Ala Asn Pro Leu Ala
290 295 300
Cys Phe Leu Ala Met Gly Val Leu Cys Arg Ser Leu Ala Gly Leu Gly
305 310 315 320
Gly Leu Ser Leu Leu Gly Val Phe Cys Gly Gly Tyr Leu Met Ala Leu
325 330 335
Ala Val Leu Ser Pro Cys Pro Pro Leu Val Gly Thr Ser Ala Gly Val
340 345 350
Val Leu Val Val Leu Ser Trp Val Leu Cys Leu Gly Val Phe Tyr Tyr
355 360 365
Val Lys Val Ala Ala Ser Ser Leu Leu His Gly Gly Gly Arg His Ala
370 375 380
Leu Leu Ala Ala Gly Val Ala Ile Gln Val Gly Ser Leu Leu Gly Ala
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Val Ala Met Phe Pro Pro Thr Ser Ile Tyr His Val Phe His Cys Arg
405 410 415
Lys Asp Cys Ala Asp Pro Cys Asp Cys
420 425

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<400> 67
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35 40 45
Ile Tyr Asp Val Ile Val Glu Pro Pro Cys Val Gly Ser Met Thr Asp
50 55 60
Glu His Gly His Gln Arg Pro Val Ala Phe Leu Ala Tyr Arg Val Asn
65 70 75 80
Gly Gln Tyr Ile Met Val Gly Leu Ala Cys Cys Phe Leu Phe Thr Met
85 90 95
Gly Gly Leu Gly Phe Ile Ile Leu Asp Arg Cys Asn Ala Phe Asn Ile
100 105 110
Lys Leu Asn Arg Phe Leu Leu Leu Phe Gly Phe Val Tyr Val
115 120 125
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130 135 140
Gly Tyr Leu Met Gly
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<210> 68
<211> 396
<212> PRT
<213> Homo sapiens

<400> 68
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1 5 10 15
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<400> 74

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Arg Asn Cys Trp Asp Cys Pro His Cys Glu Gln Tyr Asn Gly Phe Gln

Glu Asn Gly Asp Tyr Asn Lys Pro Ile Pro Ala Gln Tyr Leu Glu His

Leu Asn His Val Val Ser Ser Ala Pro Ser Leu Arg Asp [illegible]

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His His Gln Thr Thr Lys Ile Lys Gln Leu Ala Ala Phe Ala Pro Arg

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Tyr Ile Lys His Gln Asn Arg Gln Leu Arg Ala Leu Leu Leu Ser His

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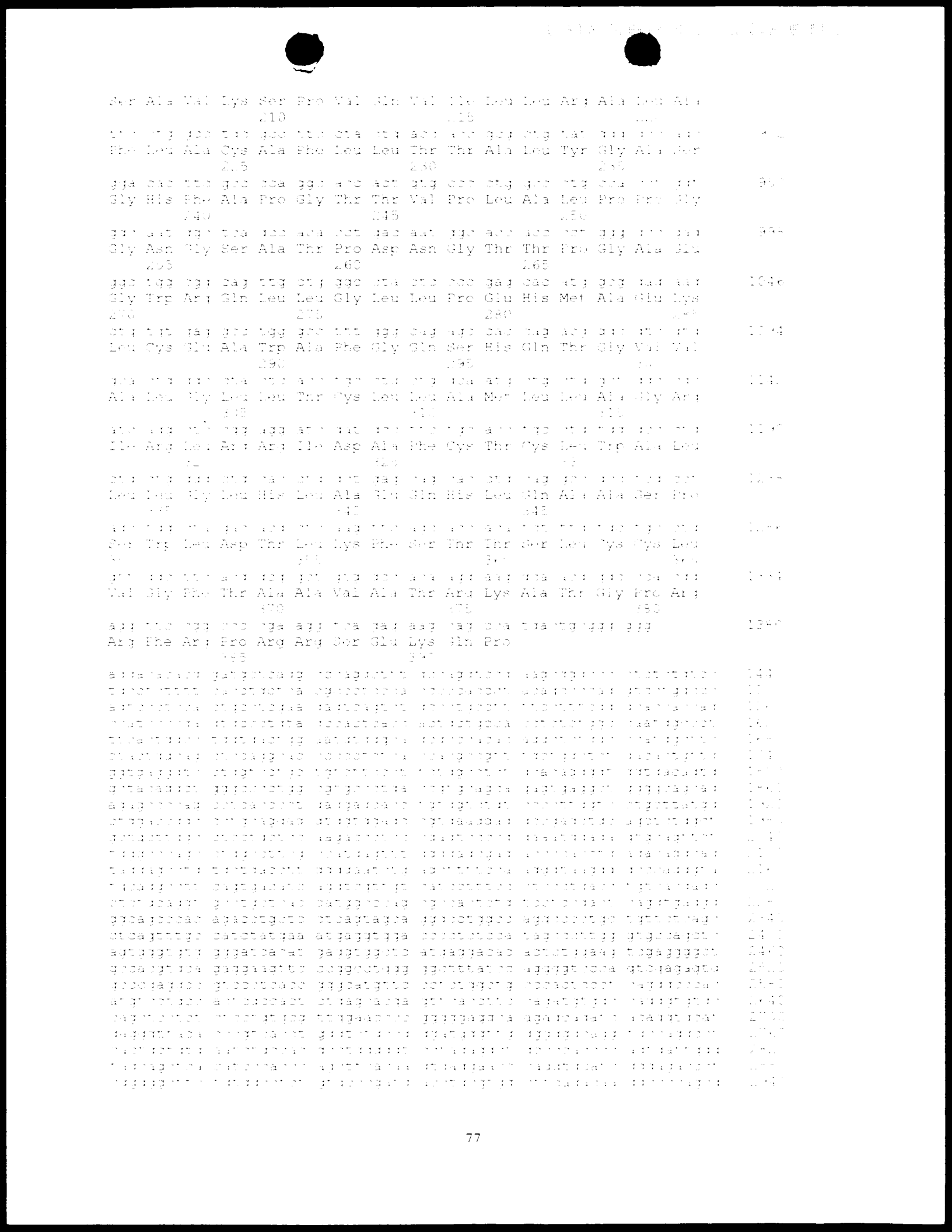

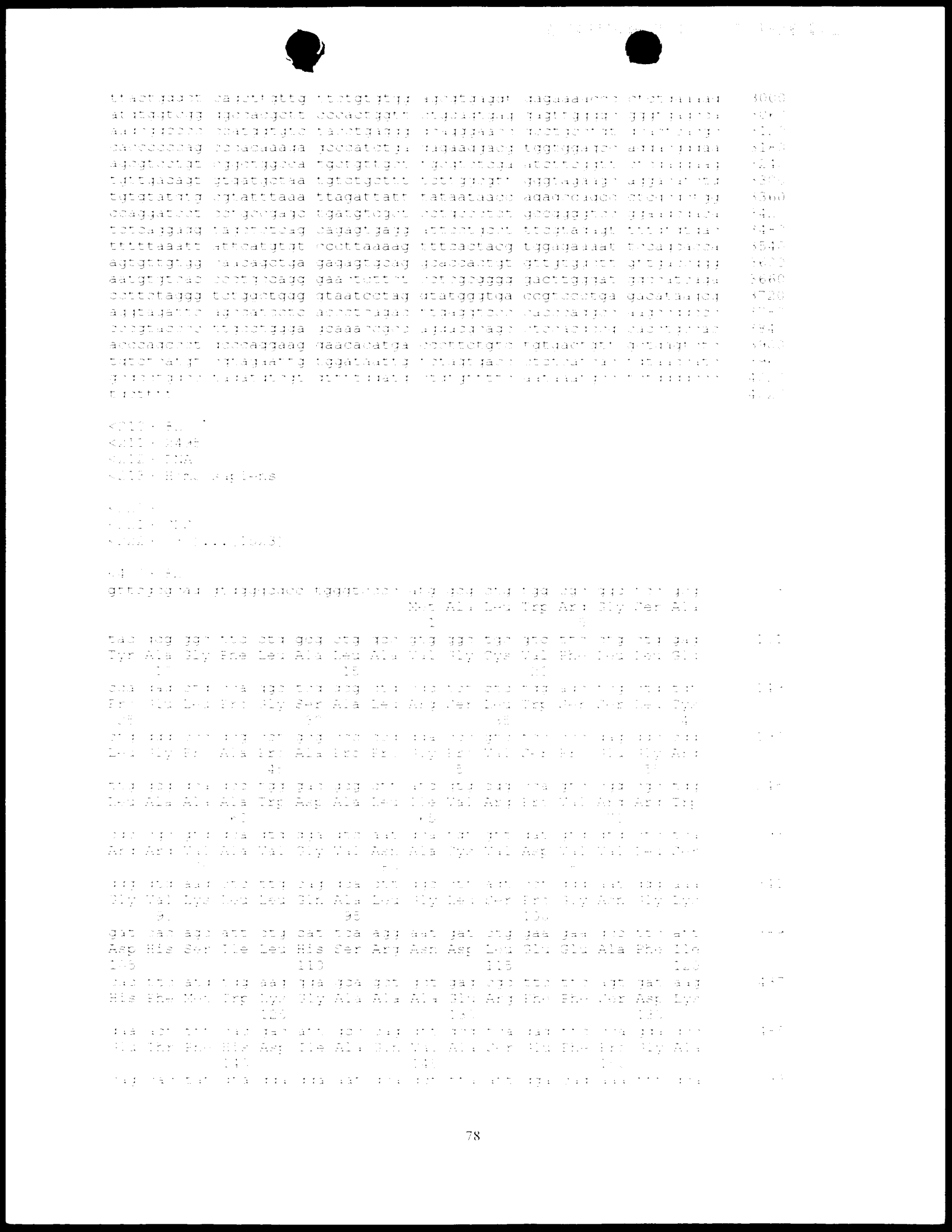

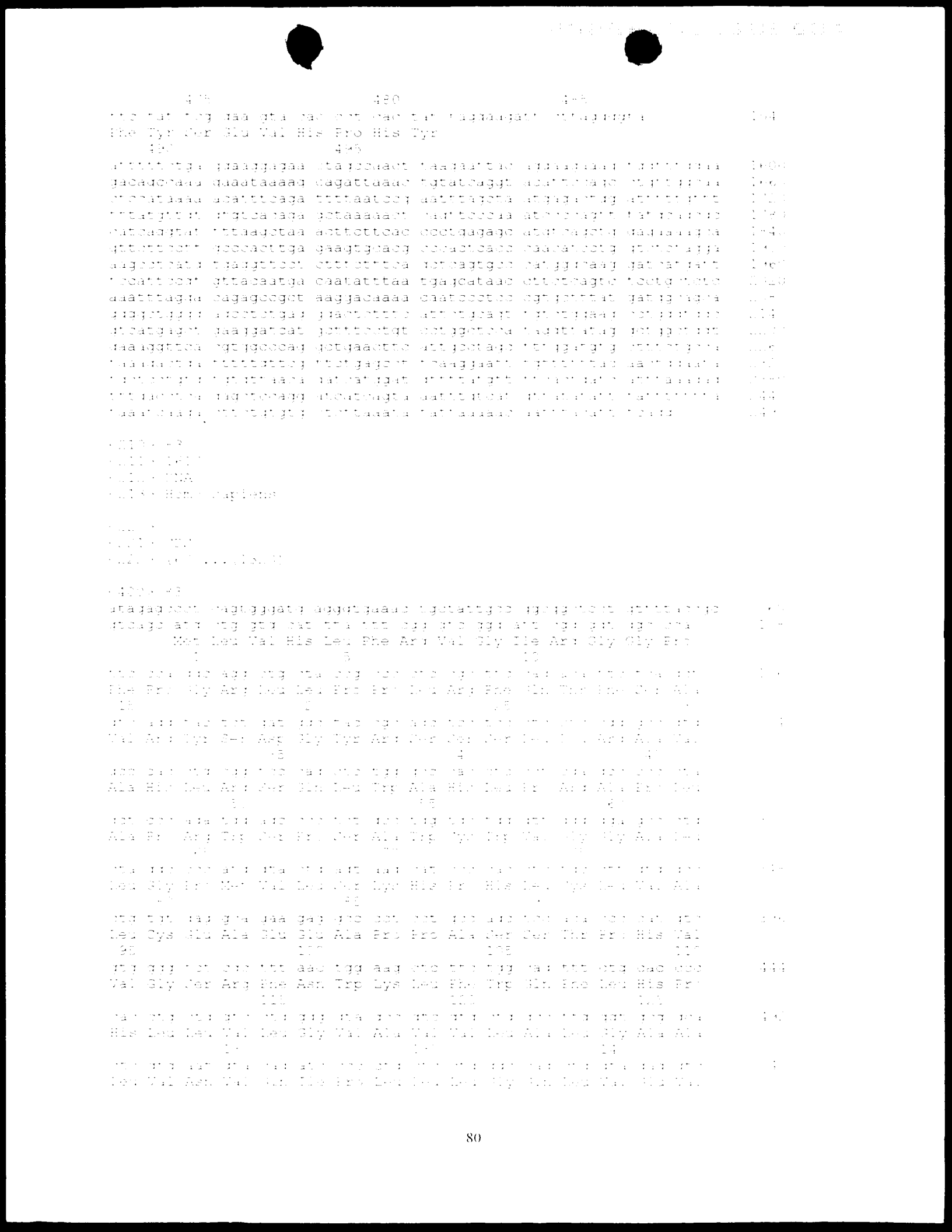

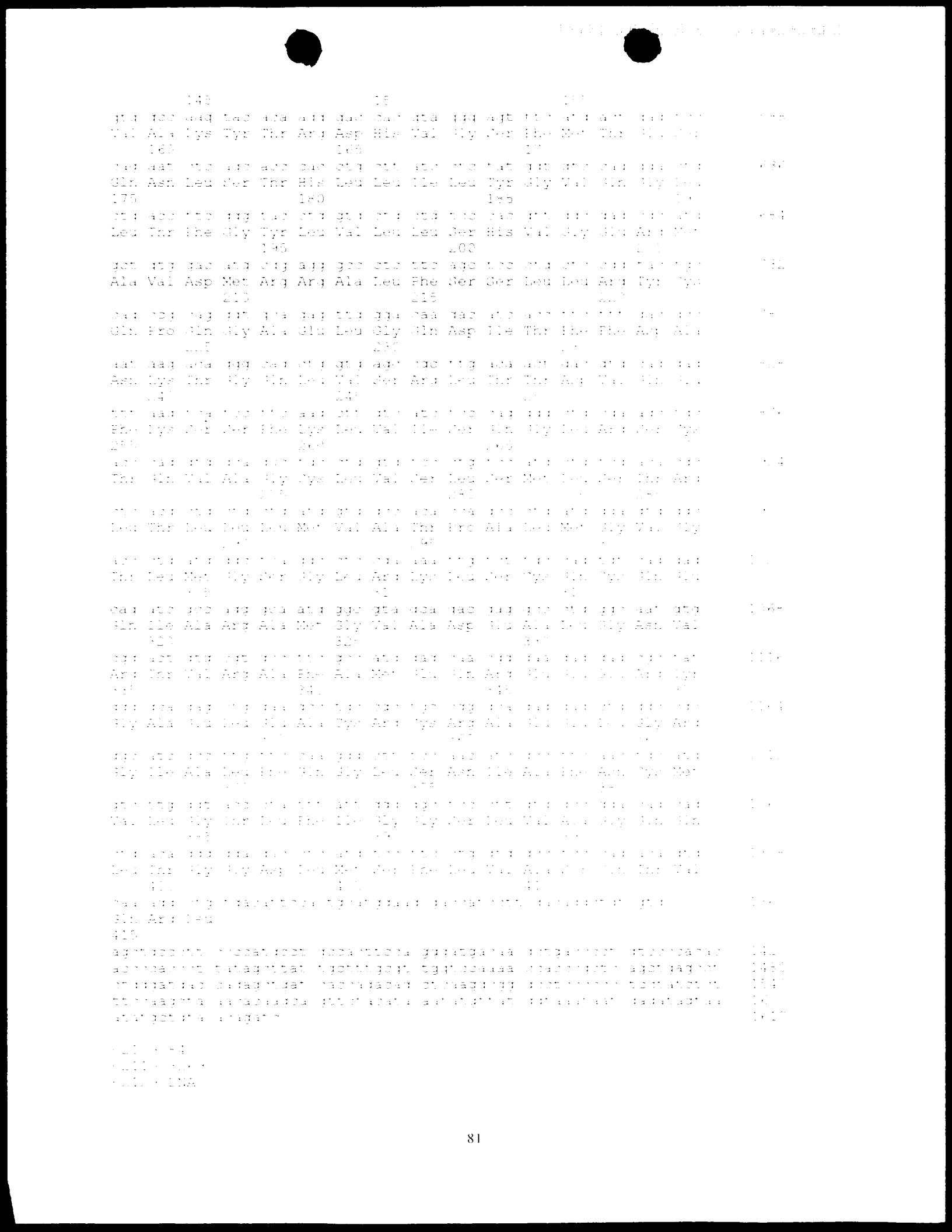

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[illegible]
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[illegible]
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[illegible]
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[illegible]
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140                 145                 150                 155

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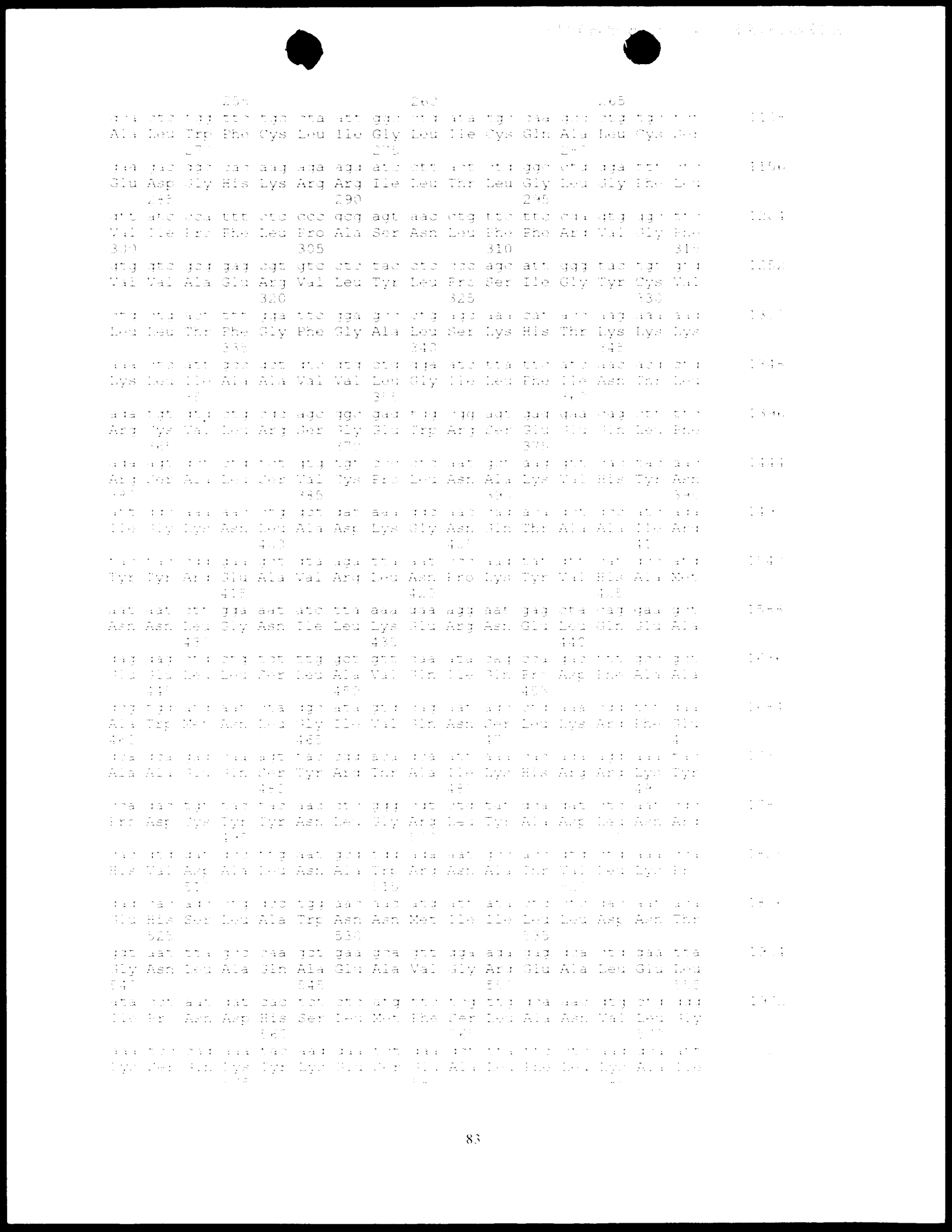

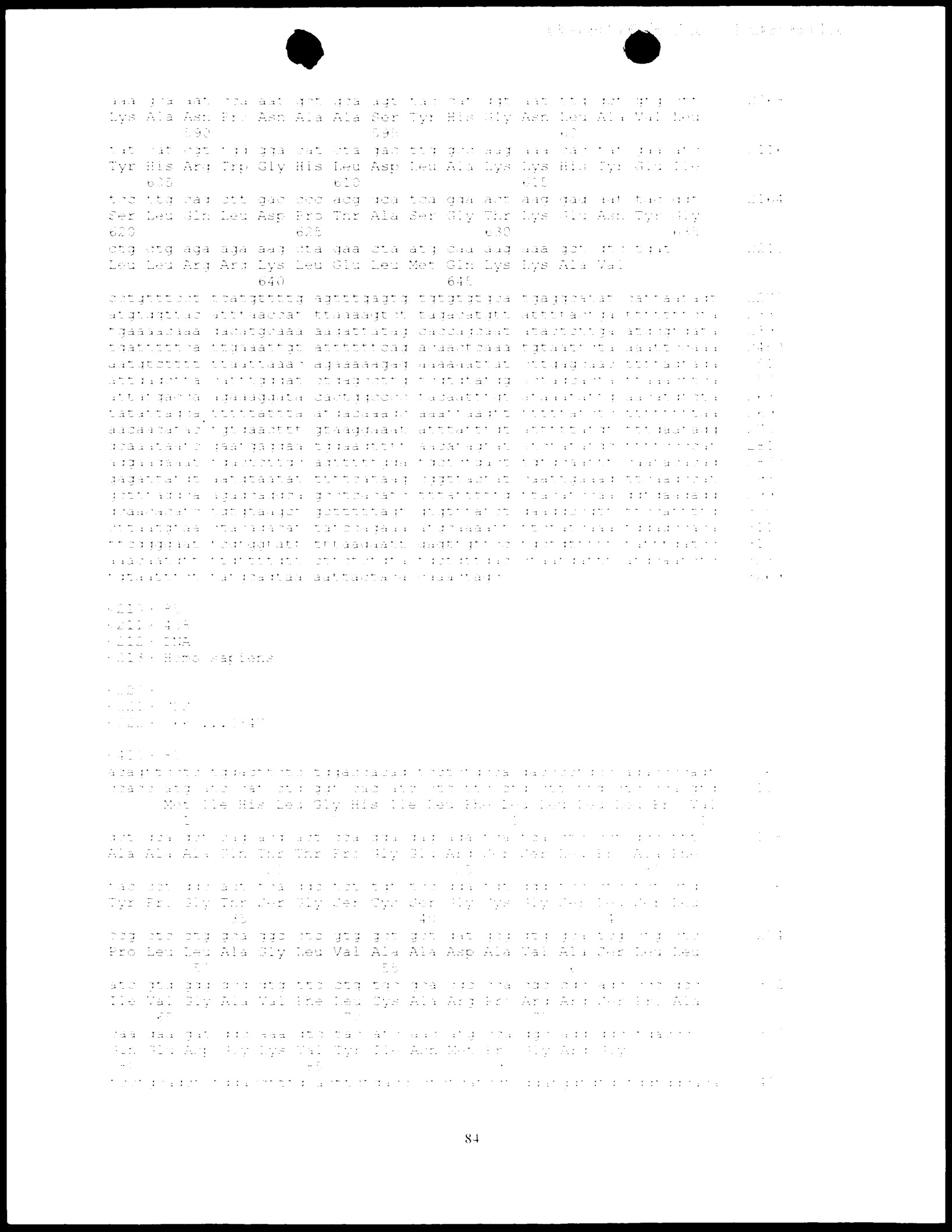

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195 200 205
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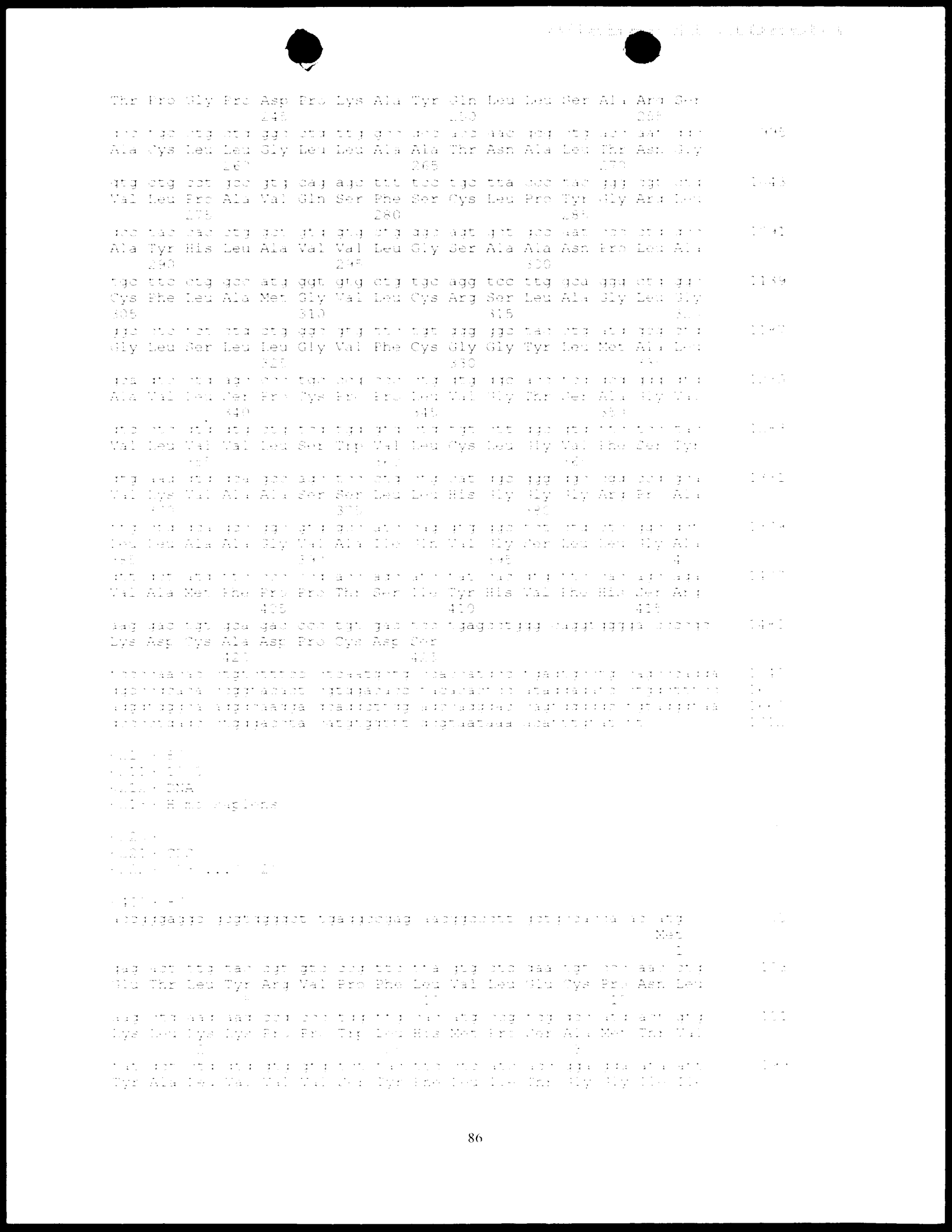

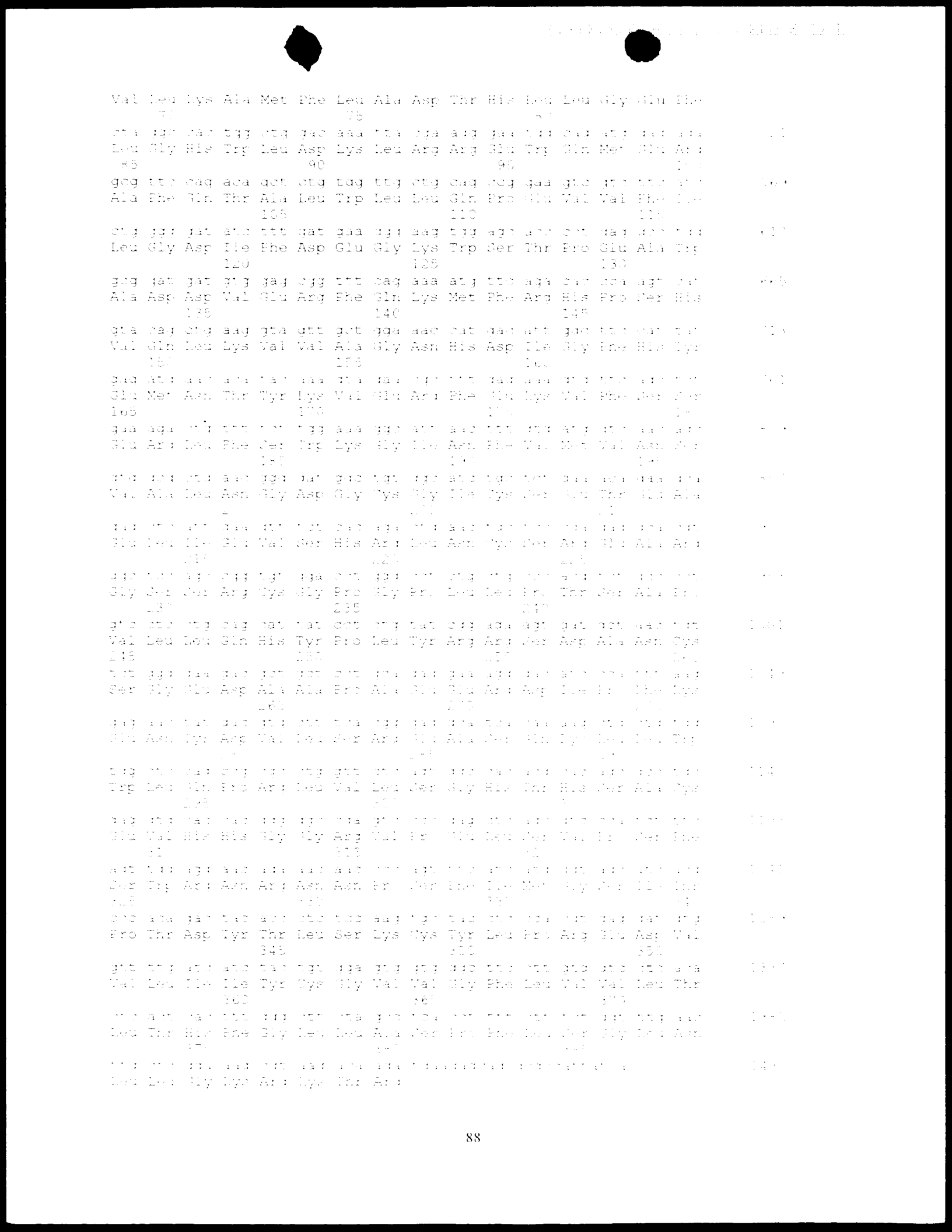

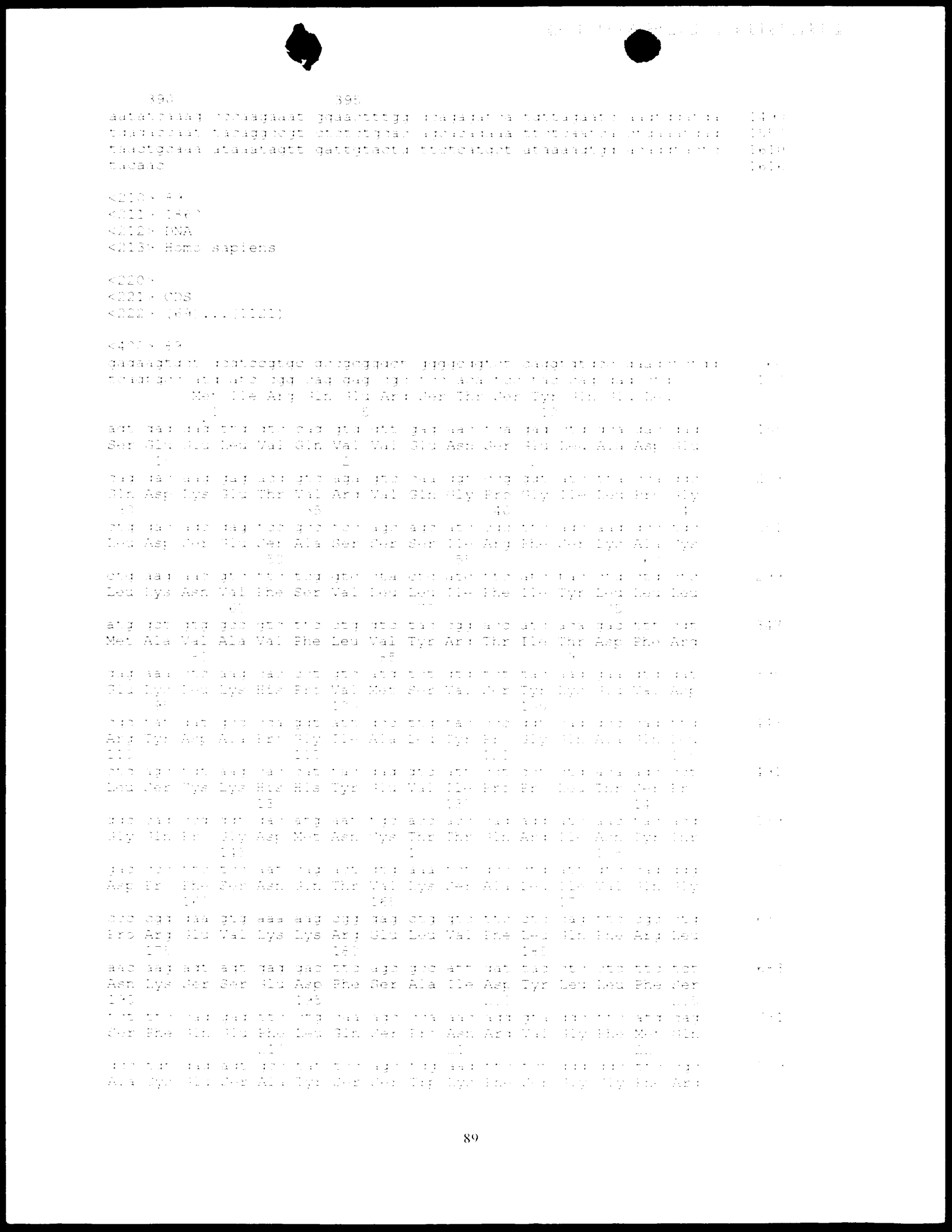

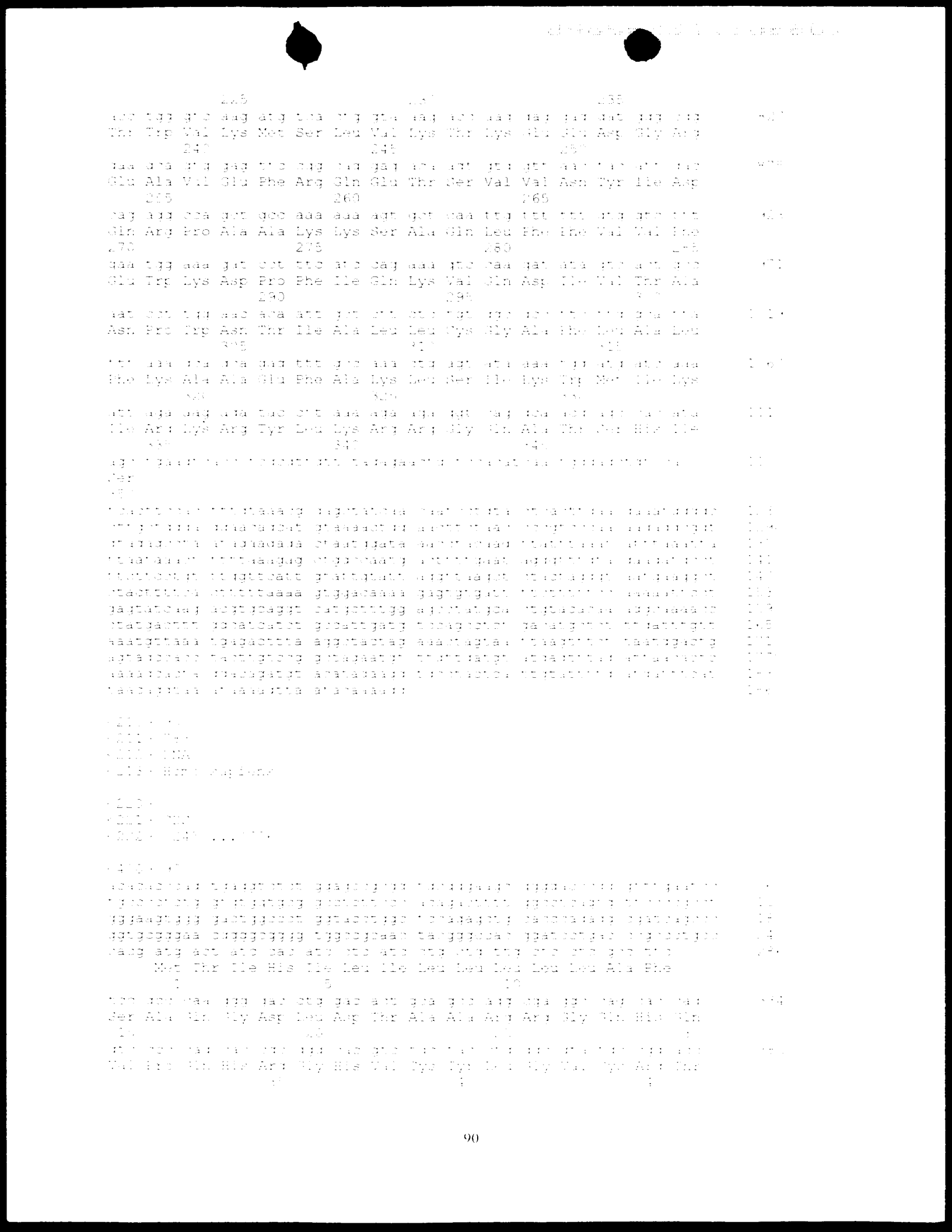

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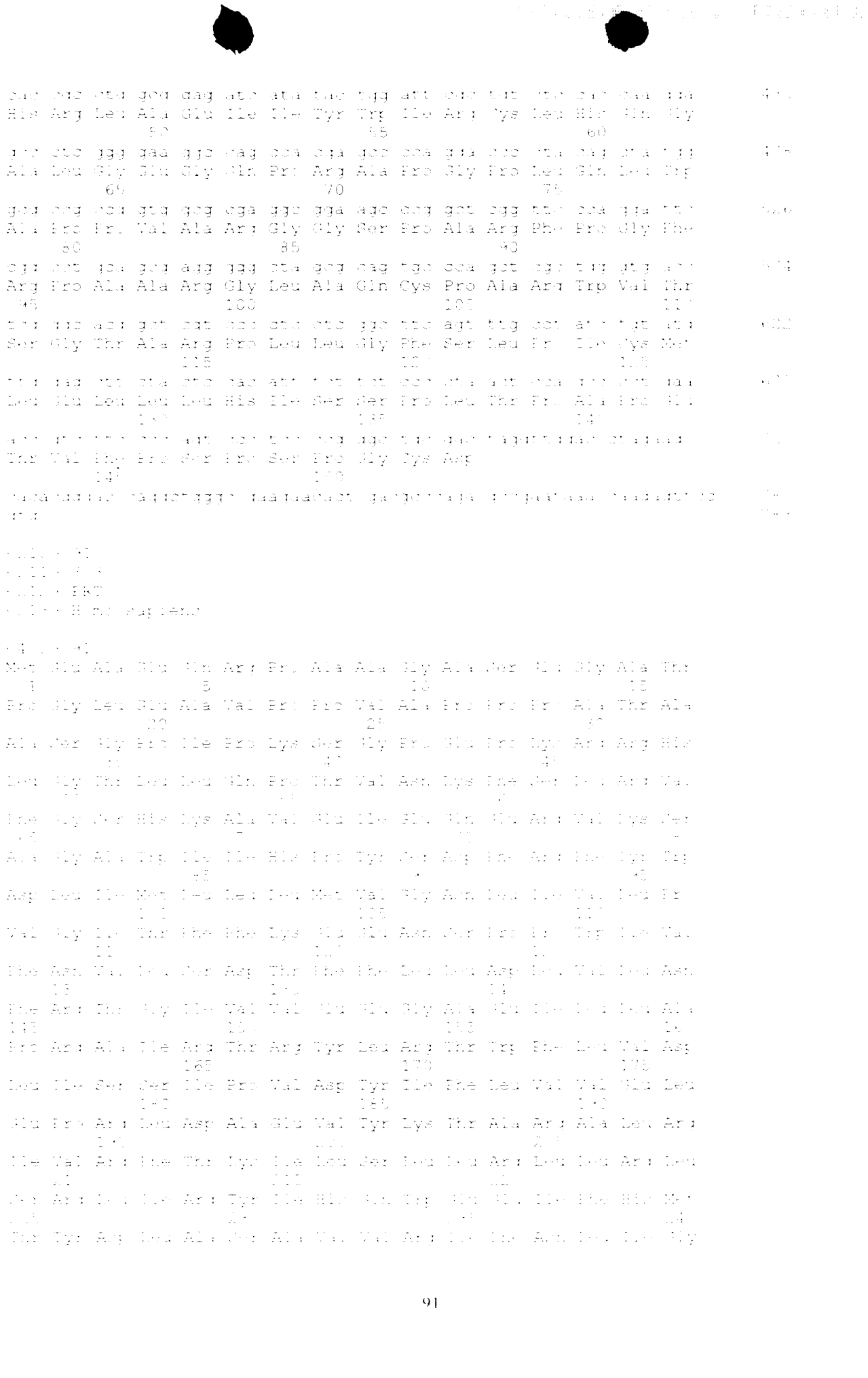

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<210> 82
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<212> PRT
<213> Homo sapiens

<400> 82

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        35                  40                  45
Met Ala Met Ala Tyr Gly Ser Ser Leu Ala Ala Gln Gly Lys Gln Leu
    50                  55                  60
Val Asp Lys Asn Ile Asp Arg Phe Ile Pro Ile Thr Lys Leu Lys Tyr
65                  70                  75                  80
Tyr Phe Ala Val Asp Thr Met Tyr Val Gly Arg Lys Leu Gly Leu Leu
                85                  90                  95
Phe Phe Pro Tyr Leu His Gln Asp Trp Val Val Gln Tyr Gln Leu Asp
            100                 105                 110
Thr Pro Val Ala Pro Arg Phe Asp Val Asn Ala Pro Asp Leu Tyr Ile
        115                 120                 125
Pro Ala Met Ala Phe Ile Thr Tyr Val Leu Val Ala Gly Leu Ala Leu
    130                 135                 140
Gly Thr Gln Asp Arg Phe Ser Pro Asp Leu Leu Gly Leu Gln Ala Ser
145                 150                 155                 160
Tyr Ala Leu Ala Trp Leu Thr Leu Glu Val Leu Ala Ile Leu Leu Met
                165                 170                 175
Leu Tyr Leu Val Thr Val Asn Thr Asp Leu Ser Thr Thr Ile Asn Leu
            180                 185                 190
Ala Phe Leu Gly Tyr Lys Tyr Val Gly Met Ile Gly Gly Val Leu Met
        195                 200                 205
Gly Leu Leu Phe Gly Leu Ala Tyr Tyr Tyr Leu Val Phe Gly Trp Tyr
    210                 215                 220
Lys Val Ala Ile Pro Val Phe Met Ile Arg Thr Leu Arg Leu Lys Ile
225                 230                 235                 240
Leu Ala Asp Ala Ala Ala Glu Gly Val Ile Val Arg Gly Ala Arg Asn
                245                 250                 255
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<213> Homo sapiens

<400> 83

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<213> Homo sapiens

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35 40 45
Ser Gly Leu Ser Phe Ile Thr Phe Ile Cys Tyr Val Ala Ser Ser Ala
50 55 60
Ser Ala Phe Leu Thr Ala Pro Leu Leu Glu Phe Leu Leu Ala Leu Tyr
65 70 75 80
Phe Leu Phe Ala Asp Ala Met Gln Leu Asn Asp Lys Trp Gln Gly Leu
85 90 95
Cys Trp Pro Met Met Asp Phe Leu Arg Cys Val Thr Ala Ala Leu Ile
100 105 110
Tyr Phe Ala Ile Ser Ile Thr Ala Ile Ala Lys Tyr Met Asp Gly Ala
115 120 125
Ser Lys Ala Ala Gly Val Phe Gly Phe Phe Ala Thr Ile Val Phe Ala
130 135 140
Thr Asp Phe Tyr Leu Ile Phe Asn Asp Val Ala Lys Phe Leu Lys Gln
145 150 155 160
Gly Asp Ser Ala Asp Glu Thr Thr Ala His Lys Thr Glu Glu Leu Asn
165 170 175
Ser Asp Ser Ser Asp Ser Asp
180

<210> 85
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<212> PRT
<213> Homo sapiens

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20 25 30
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35 40 45
Leu Phe Gly Tyr Gly Ala Ser Leu Leu Cys Asn Leu Ile Gly Phe Val
50 55 60
Tyr Pro Ala Tyr Ala Ser Ile Lys Ala Ile Pro Ser Ile Ser Lys Asp
65 70 75 80
Asp Asp Thr Val Trp Leu Thr Tyr Trp Val Val Tyr Ala Leu Thr Gly
85 90 95
Leu Ala Leu Glu Leu Phe Tyr Ser Arg Leu Leu Leu Trp Phe Tyr
100 105 110
Tyr Val Gly Lys Cys Ala Phe Leu Leu Leu Phe Tyr Met Ala Ile Met
115 120 125
Trp Asn Gly Ala Leu Met Leu Tyr Gln Arg Val Val Arg Pro Leu Phe
130 135 140
Leu Arg His His Gly Ala Val Asp Arg Ile Met Asn Asp Leu Ser Gly
145 150 155 160
Arg Ala Leu Asp Ala Ala Ala Gly Ile Thr Arg Asn Val Lys Pro Ser
165 170 175
Gln Thr Pro Gln Pro Lys Asp Lys
180

<400> 86

<211> 140
<212> PRT
<213> Homo sapiens

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Leu Tyr Glu Lys Leu Tyr Thr Gly Lys Pro Asn Leu Val Asn Gly Leu
35 40 45
Gln Ala Arg Thr Phe Gly Ile Trp Thr Leu Leu Ser Ser Val Ile Arg
50 55 60
Cys Leu Cys Ala Ile Asp Ile His Asn Lys Thr Leu Tyr His Ile Thr
65 70 75 80
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85 90 95
Val Tyr Gly Thr Ala Ala Pro Thr Ile Gly Val Leu Ala Ile Leu Met
100 105 110
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130 135 140

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<212> PRT
<213> Homo sapiens

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20 25 30
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35 40 45
Trp Thr Leu Thr Asn Ile Ile His Asn Leu Gly Met Tyr Val His Leu
50 55 60
His Ala Val Lys Gly Thr Ile Phe Leu Thr Pro Asp His Gly Lys Ala
65 70 75 80
Arg Leu Leu Thr His Trp Gly Ile Leu Asp Tyr Gly Val Ile His Leu
85 90 95
Ser Ser Arg Lys Ile Phe Thr Ile Ser Pro Ile Ile Leu Tyr Ile Val
100 105 110
Ala Ser Phe Tyr Thr Lys Tyr Asp Ile Thr His Ile Ile Leu Asn Thr
115 120 125
Ala Ser Leu Leu Ser Val Ile Ile Lys Met Ile His Leu Asp His Gly
130 135 140
Val Arg Ile Phe Gly Ile Asn Lys Tyr
145 150

<210> 98
<211> 173
<212> PRT
<213> Homo sapiens

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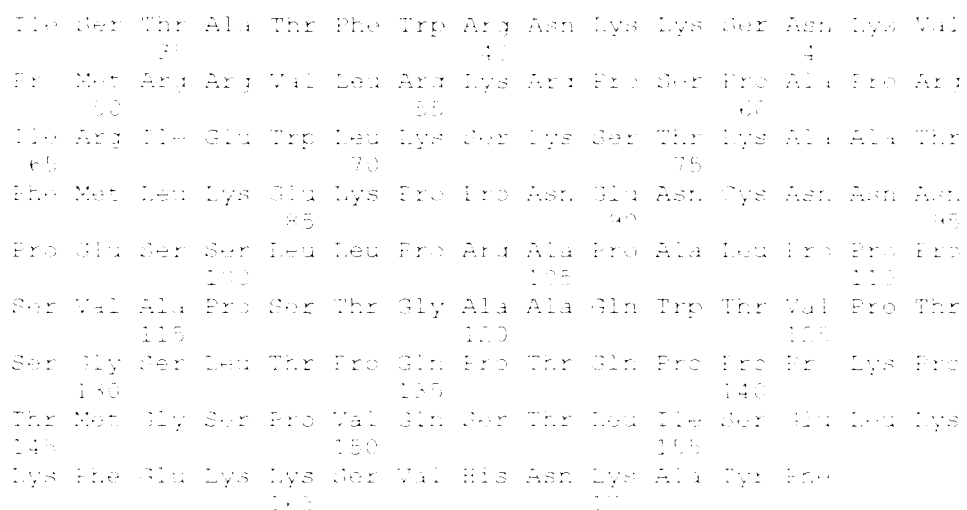

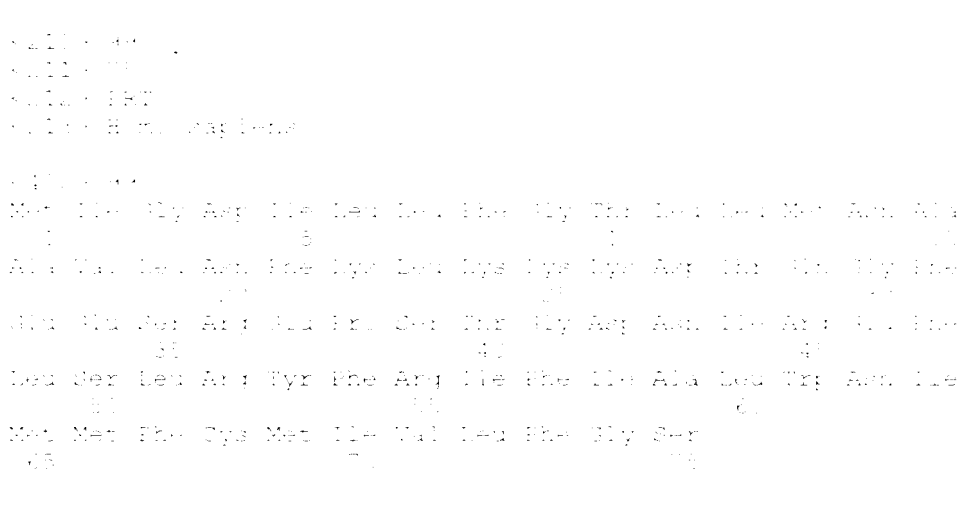

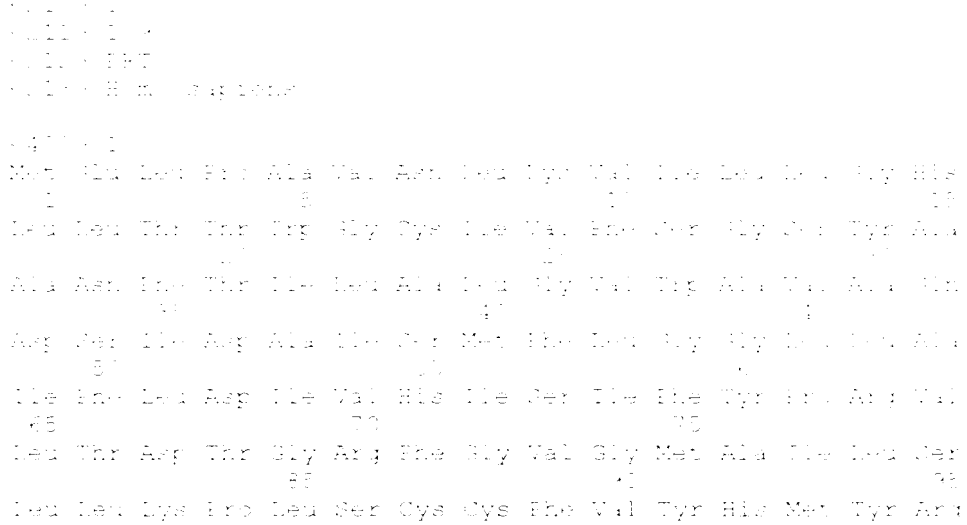

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<222> (121)...(1032)

<400> 111
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cgggtacctg atggccacag agggctctag gaggccgagc gtgtaagccg ggtaggggcg      120
atg gag gca gag cag cgg ccg gcg gcg ggg gcc agc gaa ggg gcg acc        168
Met Glu Ala Glu Gln Arg Pro Ala Ala Gly Ala Ser Glu Gly Ala Thr
 1               5                  10                  15
cct gga ctg gag gcg gtg ccc ccc gtt gct ccc ccg cct gcc acc gcg        216
Pro Gly Leu Glu Ala Val Pro Pro Val Ala Pro Pro Pro Ala Thr Ala
            20                  25                  30
gcc tca ggt ccg atc ccc aaa tct ggg cct gag cct aag agg agg cac        264
Ala Ser Gly Pro Ile Pro Lys Ser Gly Pro Glu Pro Lys Arg Arg His
        35                  40                  45
ctt ggg acg ctg ctc cag ccc acg gtc aac aag ttc tcc ctt cgg gtg        312
Leu Gly Thr Leu Leu Gln Pro Thr Val Asn Lys Phe Ser Leu Arg Val
    50                  55                  60
ttc ggc agc cac aaa gca gtg gaa atc gag cag gag cgg gtg aag tca        360
Phe Gly Ser His Lys Ala Val Glu Ile Glu Gln Glu Arg Val Lys Ser
65                  70                  75                  80
gcg ggg gcc tgg atc atc cac ccc tac agc gac ttc cgg ttc tac tgg        408
Ala Gly Ala Trp Ile Ile His Pro Tyr Ser Asp Phe Arg Phe Tyr Trp
                85                  90                  95
gac ctg atc atg ctg ctg ctg atg gtg ggg aac ctc atc gtc ctg cct        456
Asp Leu Ile Met Leu Leu Leu Met Val Gly Asn Leu Ile Val Leu Pro
            100                 105                 110
gtg ggc atc acc ttc ttc aag gag gag aac tcc ccg cct tgg atc gtc        504
Val Gly Ile Thr Phe Phe Lys Glu Glu Asn Ser Pro Pro Trp Ile Val
        115                 120                 125
ttc aac gtg ttg tct gat acc ttc ttc cta ctg gat ctg gtg ctc aac        552
Phe Asn Val Leu Ser Asp Thr Phe Phe Leu Leu Asp Leu Val Leu Asn
    130                 135                 140
ttc cga acg ggc atc gtg gtg gag gag ggt gct gag atc ctg ctg gcc        600
Phe Arg Thr Gly Ile Val Val Glu Glu Gly Ala Glu Ile Leu Leu Ala
145                 150                 155                 160
ccg cgg gcc atc cgc acg cgc tac ctg cgc acc tgg ttc ctg gtt gac        648
Pro Arg Ala Ile Arg Thr Arg Tyr Leu Arg Thr Trp Phe Leu Val Asp
                165                 170                 175
ctc atc tct tcc atc cct gtg gat tac atc ttc cta gtg gtg gag ctg        696
Leu Ile Ser Ser Ile Pro Val Asp Tyr Ile Phe Leu Val Val Glu Leu
            180                 185                 190
gag ccc cgc ttg gac gct gag gtc tac aag acg gca cgg gcc cta cgc        744
Glu Pro Arg Leu Asp Ala Glu Val Tyr Lys Thr Ala Arg Ala Leu Arg
        195                 200                 205
atc gtt cgc ttc acc aag atc cta agc ctg ctg agg ctg ctt cgc ctc        792
Ile Val Arg Phe Thr Lys Ile Leu Ser Leu Leu Arg Leu Leu Arg Leu
    210                 215                 220
tcc cgc ctc atc cgc tac atc cac cag tgg gag gag atc ttc cac atg        840
Ser Arg Leu Ile Arg Tyr Ile His Gln Trp Glu Glu Ile Phe His Met
225                 230                 235                 240
acc tat gac ctg gcc agc gct gtg gtg cgc atc ttc aac ctc atc ggc        888
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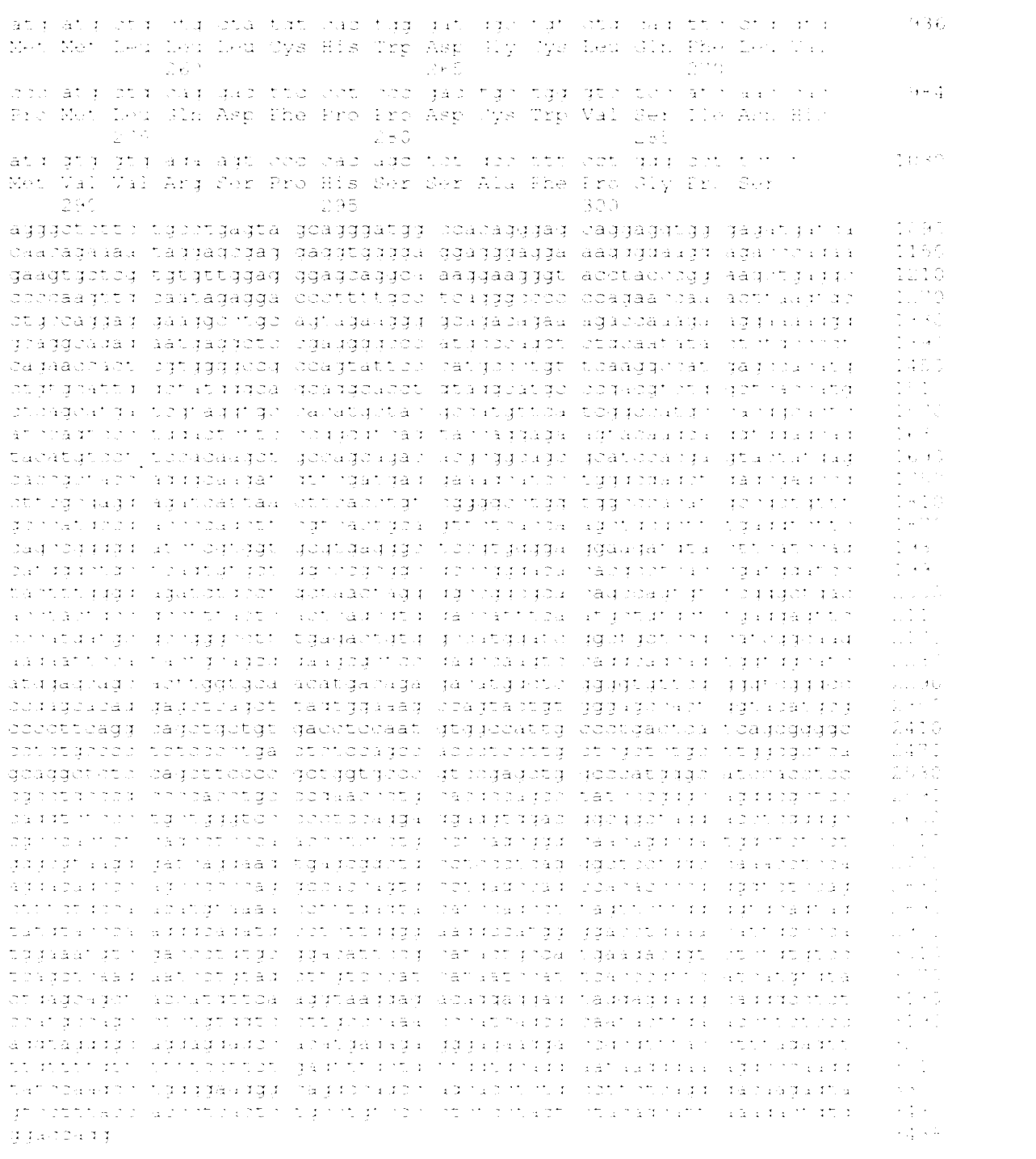

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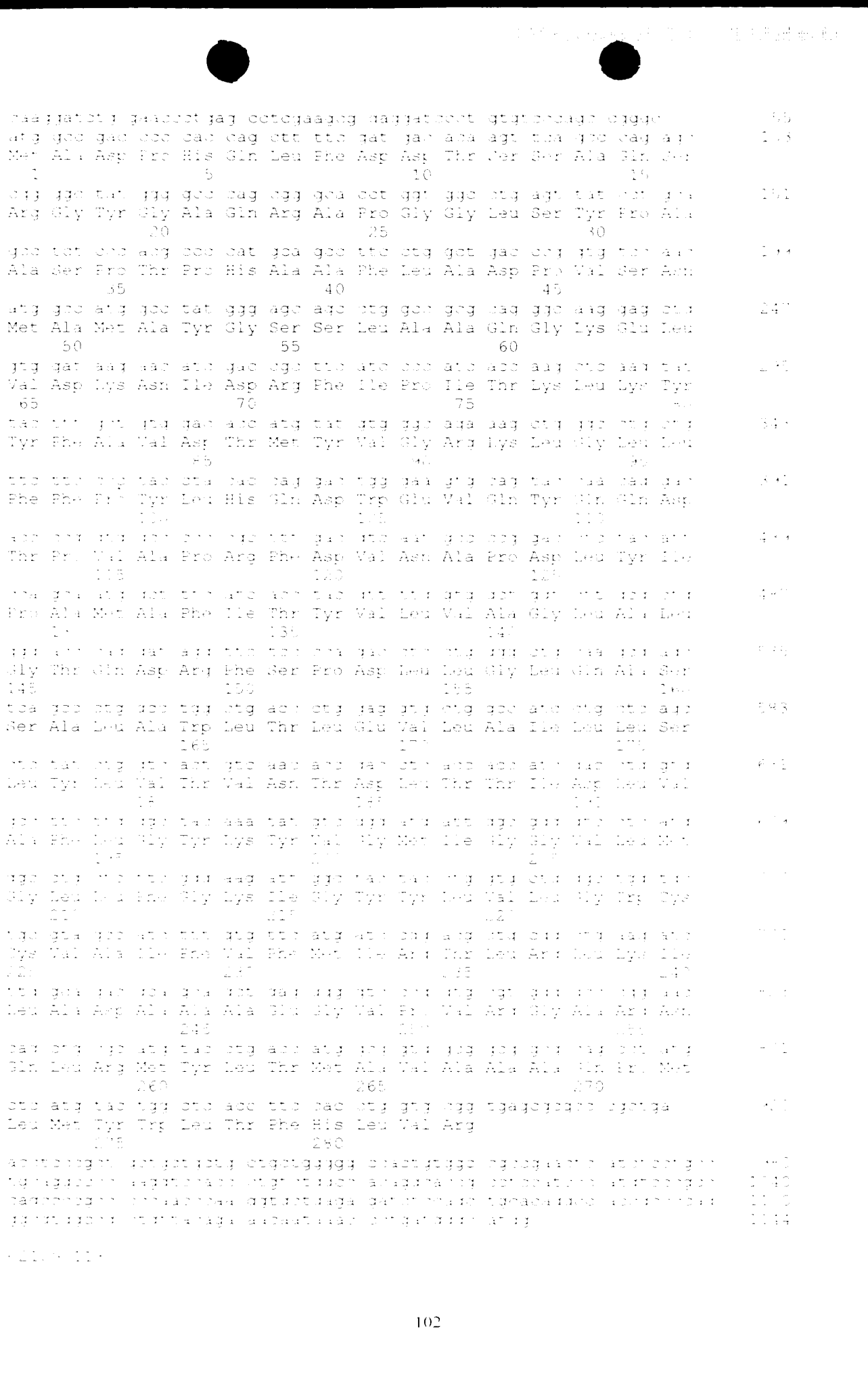
<211> 1144
<212> DNA
<213> Homo sapiens

<400> 112



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1 5 10 15

Arg Gly Tyr Gly Ala Gln Arg Ala Pro Gly Gly Leu Ser Tyr Pro Ala
20 25 30

Ala Ser Pro Thr Pro His Ala Ala Phe Leu Ala Asp Pro Val Ser Asn
35 40 45

Met Ala Met Ala Tyr Gly Ser Ser Leu Ala Ala Gln Gly Lys Glu Leu
50 55 60

Val Asp Lys Asn Ile Asp Arg Phe Ile Pro Ile Thr Lys Leu Lys Tyr
65 70 75 80

Tyr Phe Ala Val Asp Thr Met Tyr Val Gly Arg Lys Leu Gly Leu Leu
85 90 95

Phe Phe Pro Tyr Leu His Gln Asp Trp Glu Val Gln Tyr Gln Gln Asp
100 105 110

Thr Pro Val Ala Pro Arg Phe Asp Val Asn Ala Pro Asp Leu Tyr Ile
115 120 125

Pro Ala Met Ala Phe Ile Thr Tyr Val Leu Val Ala Gly Leu Ala Leu
130 135 140

Gly Thr Gln Asp Arg Phe Ser Pro Asp Leu Leu Gly Leu Gln Ala Ser
145 150 155 160

Ser Ala Leu Ala Trp Leu Thr Leu Glu Val Leu Ala Ile Leu Leu Ser
165 170 175

Leu Tyr Leu Val Thr Val Asn Thr Asp Leu Thr Thr Ile Arg Leu Val
180 185 190

Ala Phe Leu Gly Tyr Lys Tyr Val Gly Met Ile Gly Gly Val Leu Met
195 200 205

Gly Leu Leu Leu Gly Lys Ile Gly Tyr Tyr Leu Val Leu Gly Trp Cys
210 215 220

Lys Val Ala Ile Phe Val Phe Met Ile Arg Thr Leu Arg Leu Lys Ile
225 230 235 240

Leu Ala Asp Ala Ala Ala Glu Gly Val Pro Val Arg Gly Ala Arg Asn
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Gln Leu Arg Met Tyr Leu Thr Met Ala Val Ala Ala Ala Gln Leu Met
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Leu Met Tyr Trp Leu Thr Phe His Leu Val Arg
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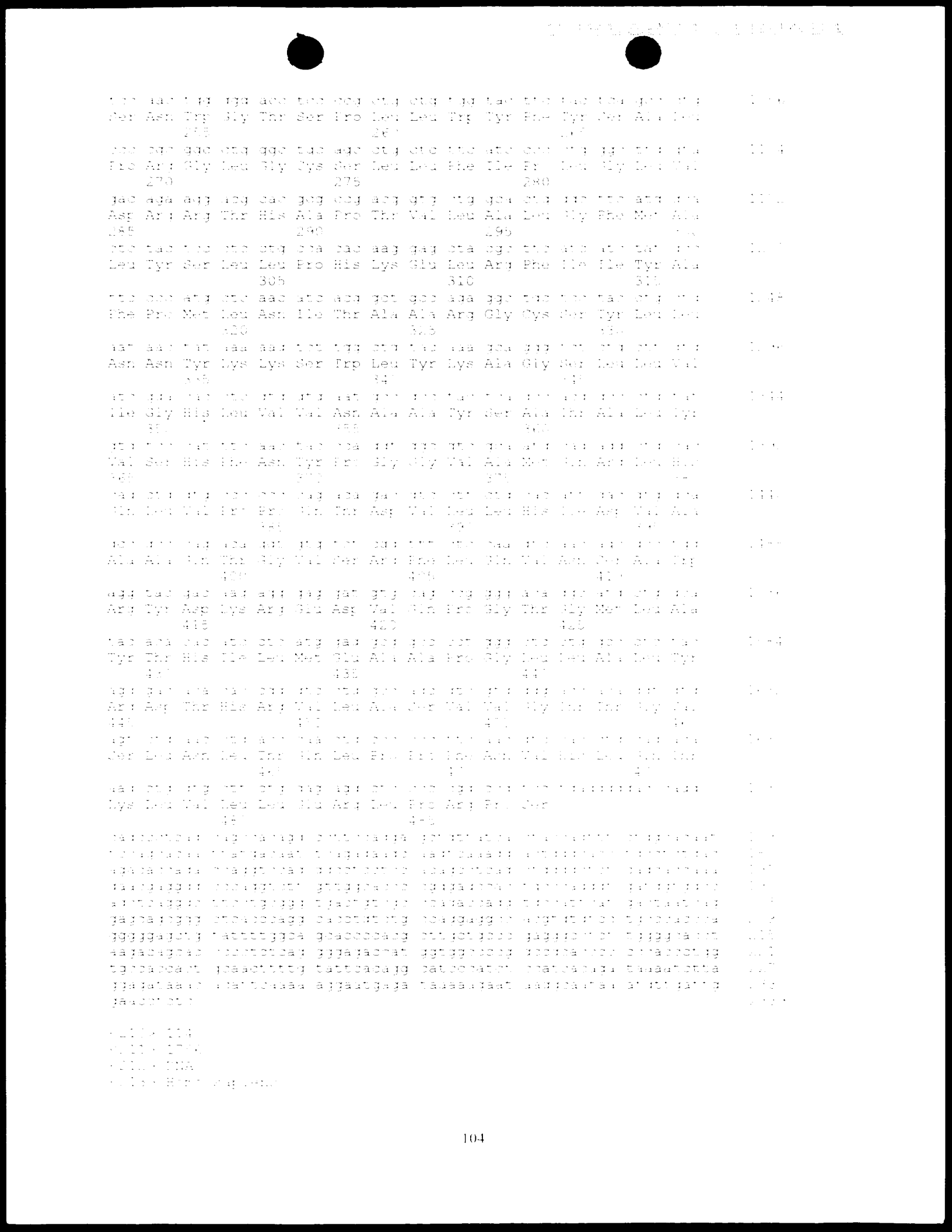

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<222> (102)...(660)

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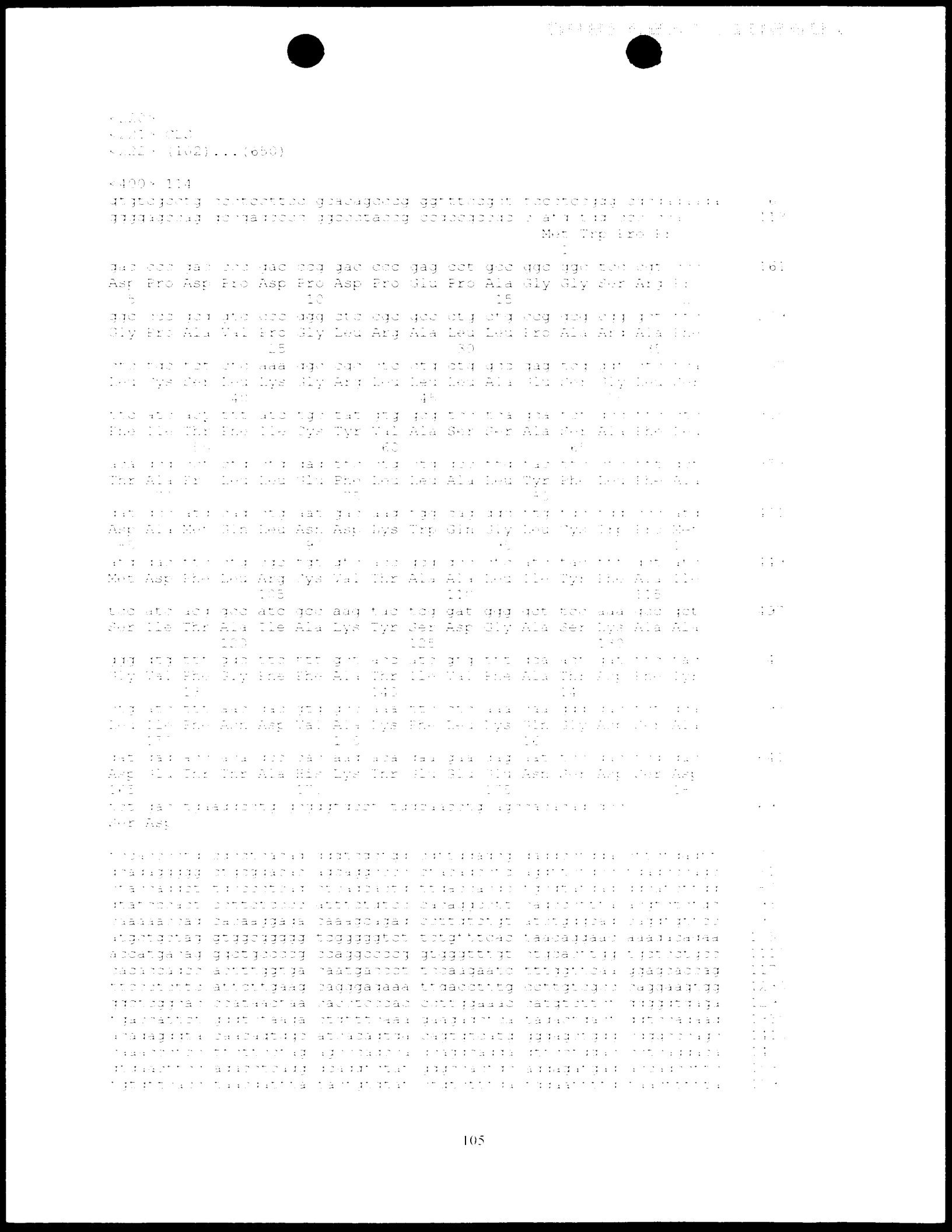

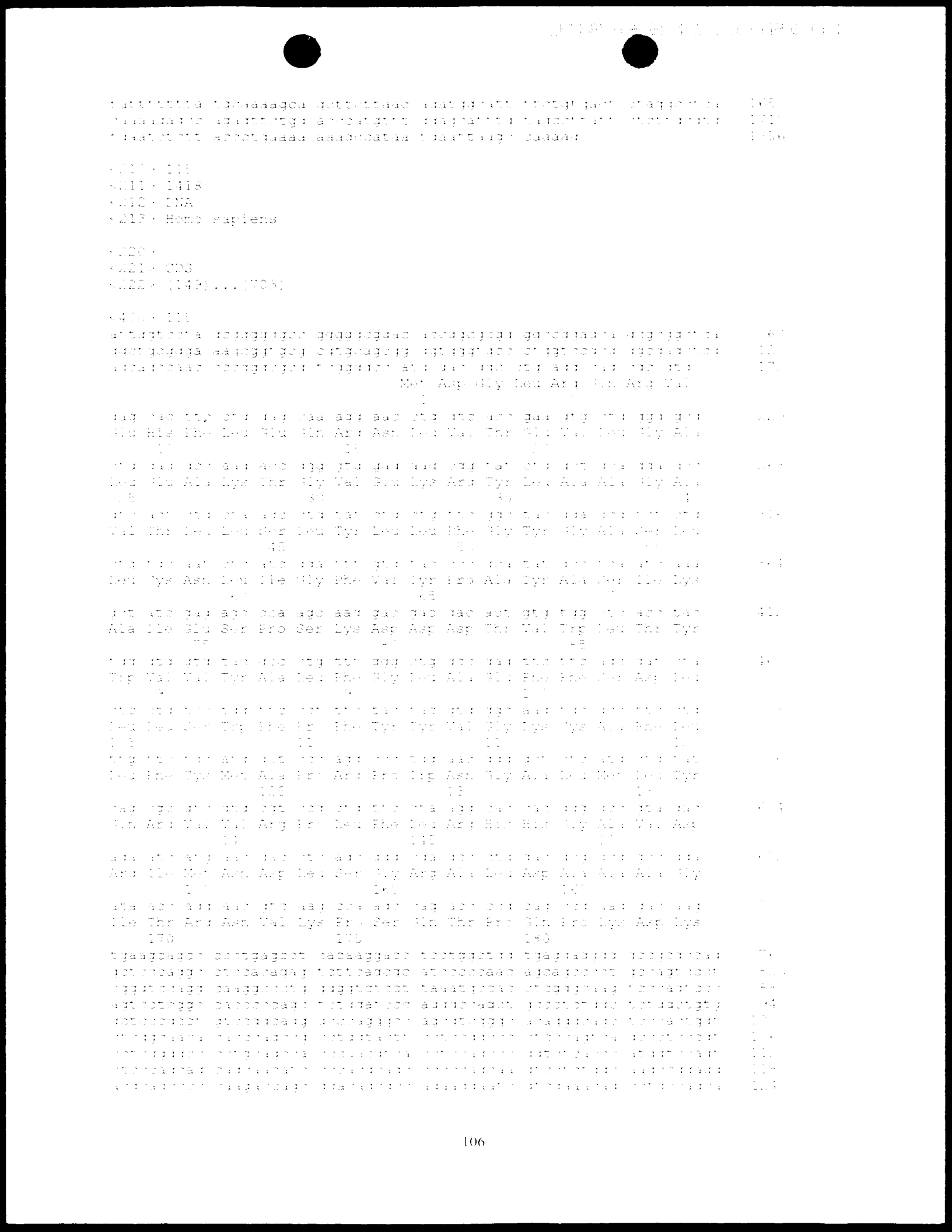

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<211> 1211
<212> DNA
<213> Homo sapiens

<220>
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t[illegible] atg agc cgt ttc ctg aat gt[illegible] tta aga a[illegible] tgg ctg 168
Met Ser Arg Phe Leu Asn Val Leu Arg Ser Trp Leu
1 5 10

g[illegible] atg [illegible] atc ata g[illegible] atg ggg aac acc ctg cag agc tt[illegible] [illegible] 216
Val Met Val Ser Ile Ile Ala Met Gly Asn Thr Leu Gln Ser Phe Arg
15 20 25

[illegible] 264
Asp His Thr Phe Leu Tyr Glu Lys Leu Tyr Thr Gly Lys Pro Asn Leu
30 35 40

[illegible] 312
Val Asn Gly Leu Gln Ala Arg Thr Phe Gly Ile Trp Thr Leu Leu Ser
45 50 55 60

[illegible] 360
Ser Val Ile Arg Cys Leu Cys Ala Ile Asp Ile His Asn Lys Thr Leu
65 70 75

tat cac att aca ctc tgg acc ttc ctc ctt gcc ctg ggg cat ttc ctc 408
Tyr His Ile Thr Leu Trp Thr Phe Leu Leu Ala Leu Gly His Phe Leu
80 85 90

[illegible] 456
Ser Glu Leu Phe Val Tyr Gly Thr Ala Ala Pro Thr Ile Gly Val Leu
95 100 105

[illegible] 504
Ala Pro Leu Met Val Ala Ser Phe Ser Ile Leu Gly Met Leu Val Gly
110 115 120

[illegible] 552
Leu Arg Tyr Leu Glu Val Glu Pro Val Ser Arg Gln Lys Lys Arg Asn
125 130 135 140

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
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<212> DNA
<213> Homo sapiens

<220>
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<222> (18[illegible])...(644)

<400> 1[illegible]

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tttatggata cattaagtca aatataagag tctgactact tgacacactg ctctcacata 180
ac atg aac gtt gga gtt gcc cac agt gaa gtg aat cca aat acc cgt [illegible]
Met Asn Val Gly Val Ala His Ser Glu Val Asn Pro Asn Thr Arg
1 5 10 15

gtc atg aac agc cgg ggt atg tgg ctg aca tat gca ttg gga gtt ggt 275
Val Met Asn Ser Arg Gly Met Trp Leu Thr Tyr Ala Leu Gly Val Gly
20 25 30

ttg ctt cat att gtc tta ctc agc att ccc ttc ttc agt gtt cct gtt [illegible]
Leu Leu His Ile Val Leu Leu Ser Ile Pro Phe Phe Ser Val Pro Val
35 40 45

[illegible]
Ala Trp Thr Leu Thr Asn Ile Ile His Asn Leu Gly Met Tyr Val Phe
50 55 60

[illegible] 419
Leu His Ala Val Lys Gly Thr Pro Phe Glu Thr Pro Asp Gln Gly Lys
65 70 75

[illegible]
Ala Arg Leu Leu Thr His Trp Glu Gln Leu Asp Tyr Gly Val Gln Phe
80 85 90 95

[illegible]
Thr Ser Ser Arg Lys Phe Phe Thr Ile Ser Pro Ile Ile Leu Tyr Phe
100 105 110

[illegible]
Leu Ala Ser Phe Tyr Thr Lys Tyr Asp Pro Thr His Phe Ile Leu Asn
115 120 125

[illegible]
Thr Ala Ser Leu Leu Ser Val Leu Ile Pro Lys Met Pro Gln Leu His
130 135 140

[illegible]
Gly Val Arg Ile Phe Gly Ile Asn Lys Tyr
145 150

[illegible]

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<213> Homo sapiens

<220>
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<400> 11[illegible]

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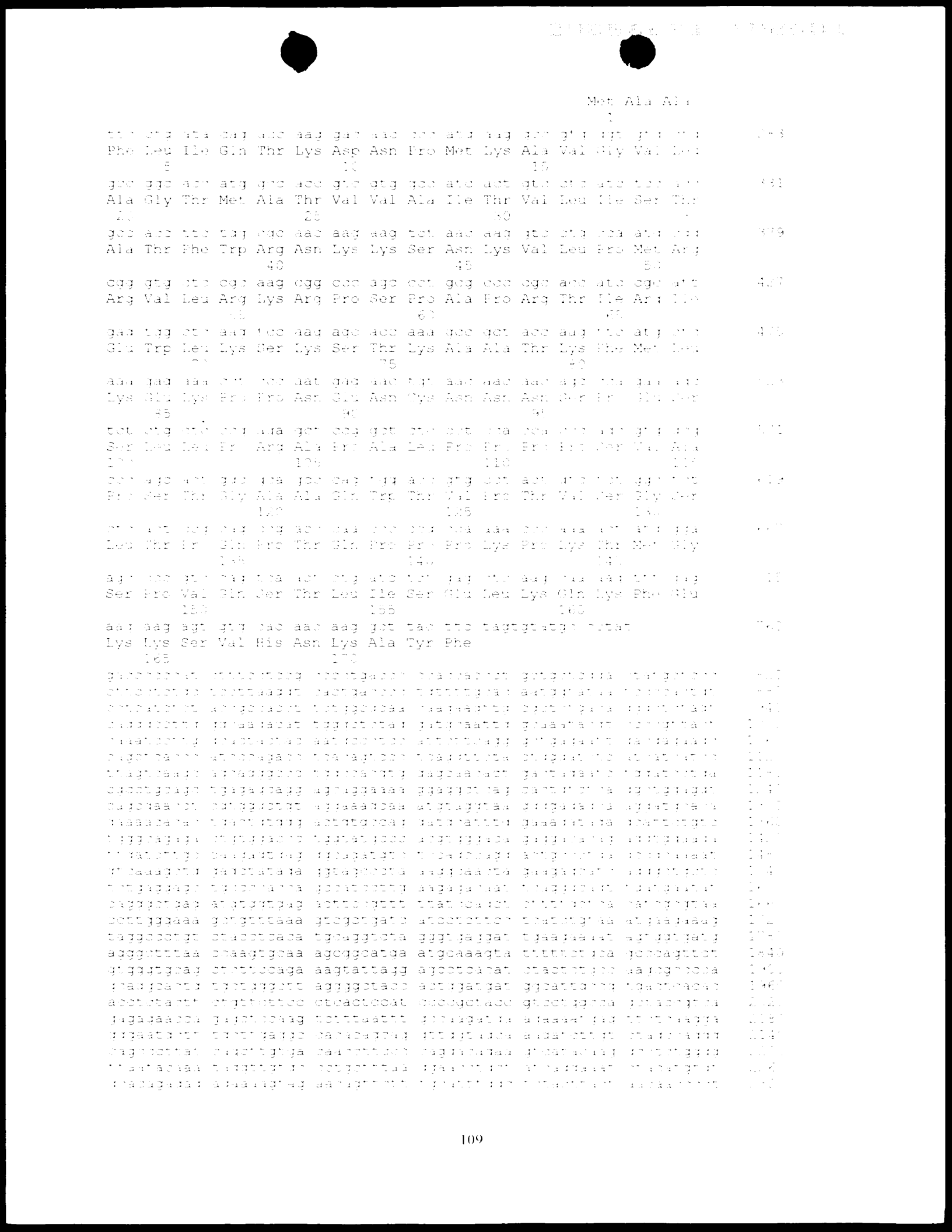

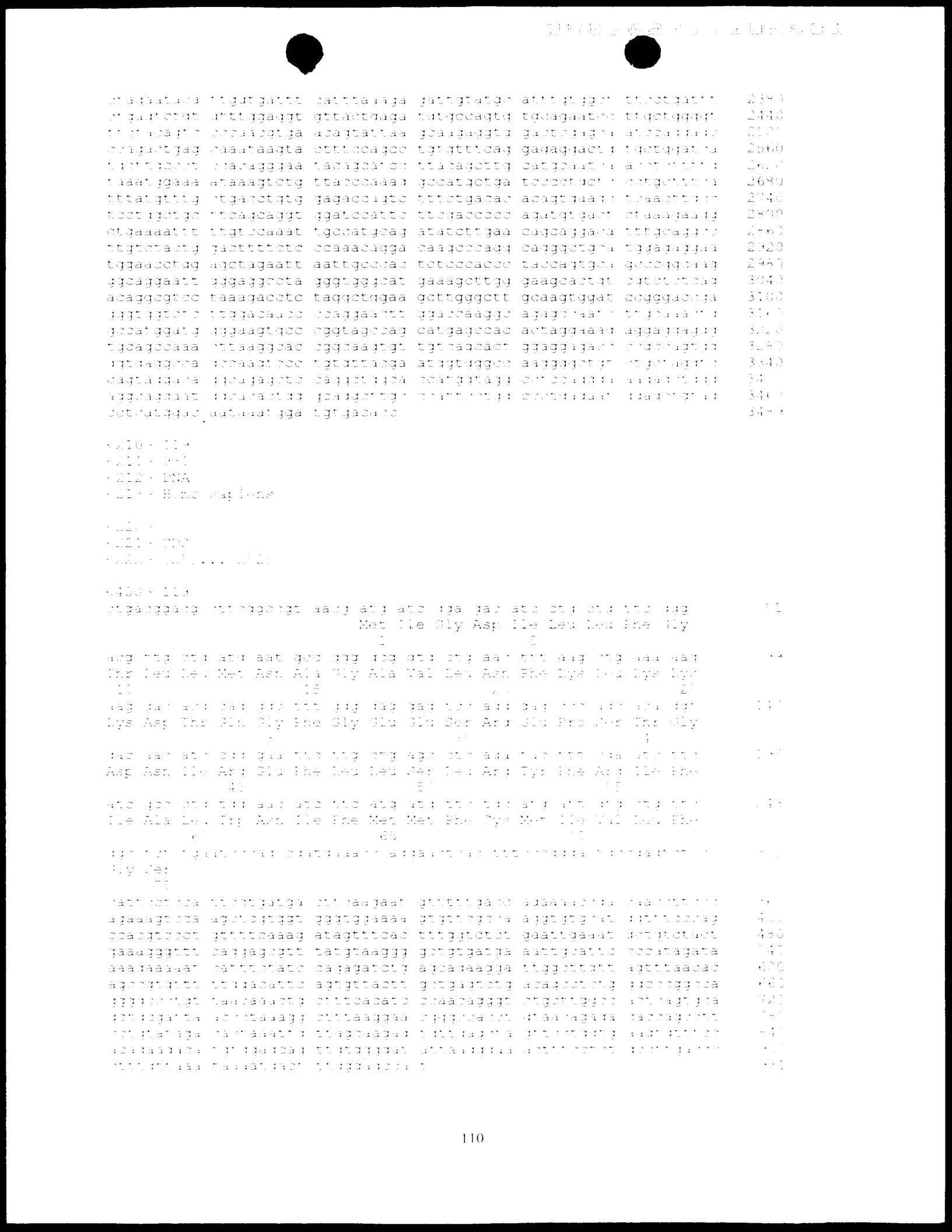

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<211> 1113
<212> DNA
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<220>
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<222> (68)...(547)

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Met Glu Leu Pro Ala Val Asn Leu Lys Val Ile Leu Leu Gly
1 5 10

cac tgg ctg ctg aca acc tgg ggc tgc att gta ttc tca g[illegible] [illegible] [illegible] [illegible]
His Trp Leu Leu Thr Thr Trp Gly Cys Ile Val Phe Ser Gly Ser Tyr
15 20 25 [illegible]

[illegible]
Ala Trp Ala Asn Phe Thr Ile Leu Ala Leu Gly Val Trp Ala Val Ala
[illegible]

[illegible]
Gln Arg Asp Ser Ile Asp Ala Ile Ser Met Phe Leu Gly Gly Leu Leu
[illegible]

[illegible]
Ala Thr Ile Phe Leu Asp Ile Val His Ile Ser Ile Phe Tyr Pro Arg
[illegible]

[illegible]
Val Ser Leu Thr Asp Thr Gly Arg Phe Gly Val Gly Met Ala Ile Leu
[illegible]

[illegible]
Ser Leu Leu Leu Lys Pro Leu Ser Cys Cys Phe Val Tyr His Met Tyr
95 100 105 110

cgg gag cg[illegible] gg[illegible] ggt gag ctc ctg gt[illegible] [illegible] act ggt t[illegible] [illegible] gg[illegible] t[illegible] 44[illegible]
Arg Glu Arg Gly Gly Glu Leu Leu Val His Thr Gly Phe Leu Gly Ser
115 120 125

[illegible]
Ser Gln Asp Arg Ser Ala Tyr Gln Thr Ile Asp Ser Ala [illegible] Ala [illegible]
[illegible]

[illegible]
Ala Asp [illegible] [illegible] Ala Val [illegible] [illegible] Gly Arg Ser Gln Asp Ala Arg [illegible]
[illegible] 15[illegible] [illegible]

tac tgaag[illegible] [illegible]
Tyr

[illegible]
ggagcagtct ggatgggag tgaggcccg tccttctcac tgcctggtca cagggtggt [illegible]
agggatgcac ggctggaggc cagaggtgtc agcaacactg tgaccacaca caacctcca [illegible]
cctccctttt catagcacag cattaaagtt tggggaattc tgt [illegible]

<210> 121
<211> [illegible]
<212> PRT
<213> Homo sapiens

<400> 121
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Ser Pro Leu Lys Asn Phe Arg Ile Tyr Ser Leu Asp Met Lys Lys Thr
515 520 525
Phe Ile Val Arg Phe Gly Leu Asp Lys Trp Ser Ser Leu Pro Gln Ile
530 535 540
Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser Leu Ser Ile Ser Ser Ile
545 550 555
Pro Cys Asp Thr Phe Leu Lys Leu Ile Gly Trp Glu Lys Gly Val Ala
565 570 575
Phe Ile Asn Gly Gln Asn Leu Gly Arg Tyr Trp Asn Ile Gly Pro Gln
580 585 590
Lys Thr Leu Tyr Leu Pro Gly Pro Trp Leu Ser Ser Gly Ile Asn Thr
595 600 605
Val Ile Val Phe Glu Glu Thr Met Ala Gly Pro Ala Leu Gln Phe Val
610 615 620
Glu Thr Pro His Leu Gly Arg Asn Gln Tyr Ile Lys
625 630 635

Met Val Gln Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Ile Leu
Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Thr
Tyr Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Asn Val Phe Tyr
Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Ala
Gly Phe Leu Ala Glu Glu Lys Leu His Val Leu Val Asn Asn Ala
Gly Val Met Met Tyr Pro Tyr Ser Lys Thr Ala Gln Gly Phe Glu Met
His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu
Leu Asp Leu Lys Lys Ser Ala Pro Ser Arg Ile Val Asn Val Ser Ser
Ser Leu Ala His His Ser Gly Arg Ile His Phe His Asp Leu Gln Ser
Glu Lys Arg Tyr Asn Ala Gly Leu Ala Tyr Ser Asn Ser Lys Leu Ala
Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly
Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Asn Leu Val
Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe
Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu
Thr Ala Lys Asp Val Thr Gly Lys Tyr Phe Ser Asp His Lys Val Lys

Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg
290 295 300
Leu Trp Asp Val Ser Tyr Asp Leu Leu Gly Leu Pro Ile Asp
305 310 315

<210> 123
<211> 82
<212> PRT
<213> Homo sapiens

<400> 123
Met Ala Phe Thr Leu Tyr Ser Leu Leu Gln Ala Ala Leu Leu Cys Val
1 5 10 15
Asn Ala Ile Ala Val Leu His Val Glu Arg Phe Leu Lys Asn Ile Gly
20 25 30
Trp Gly Thr Asp Gln Gly Ile Gly Gly Phe Gly Gln Glu Ser Gly Ile
35 40 45
Lys Ser Gln Leu Met Asn Leu Ile Arg Ser Val Arg Thr Val Met Arg
50 55 60
Val Pro Leu Ile Ile Val Asn Ser Ile Ala Gly Val Leu Leu Leu Gly
65 70 75 80
Phe Gly

<211> 114
<212> PRT
<213> Homo sapiens

<400> 124
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1 5 10 15
Gly Ala Leu Ser Gly Trp Ala Ala Ser Asp Asp Pro Ile Gln Lys Val
20 25 30
Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg Glu Val Gly
35 40 45
Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His Ala Gly Arg Glu
50 55 60
Val Glu Lys Val Ile Asn Gly Leu Ser Asn Met Gly Ser Ala Thr Gly
65 70 75 80
Lys Ala Leu Asp Lys Gly Val Thr Gly Val Asn His Gly Met Asp Lys
85 90 95
Val Ala His Glu Ile Asn His Gly Leu Gly Gln Ala Gly Ile Glu Ala
100 105 110
Ala Lys Leu Gly His Gly Val Asn Asn Ala Ala Gly Thr Ala Gly Lys
115 120 125
Val Ala Asp Lys Ala Val Gln Gly His His Thr Gly Val His Ile Ala
130 135 140
Gly Lys Glu Ala Glu Lys Leu Gly Gln Gly Val Asn His Ala His Asp
145 150 155 160
Gln Ala Gly Lys Glu Val Glu Lys Leu Gly Gln Gly Ala His His Ala
165 170 175
Ala Gly Gln Ala Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn
180 185 190
Gln Ala Ser Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser
195 200 205
Gly Gly Ser Ser His Gln Gly Gly Ala Thr Thr Thr Pro Leu Ala Ser
210 215 220
Gly Ala Ser Val Asn Thr Pro Ile Ile Asn Lys Pro Ala Leu Trp Asp
225 230 235 240
Ser Val Ala Asn Ile Met Ile

<211> 225
<212> PRT
<213> Homo sapiens

<400> 145
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1 5 10 15
Pro Leu Val Leu Glu Met Leu Lys Ala Gly Val Lys Asp Thr Glu Asn
20 25 30
Arg Val Ala Leu His Ala Leu Thr Arg Pro Pro Ala Leu Leu Leu Leu
35 40 45
Ala Ala Ala Ser Ser Gly Leu Arg Phe Val Leu Ala Ser Phe Ala Leu
50 55 60
Ala Leu Leu Leu Pro Val Phe Leu Ala Val Ala Ala Val Lys Leu Gly
65 70 75 80
Leu Arg Ala Arg Trp Gly Ser Leu Pro Pro Gly Gly Leu Gly Gly
85 90 95
Pro Trp Val Ala Val Arg Gly Ser Gly Asp Val Cys Gly Val Leu Ala
100 105 110
Leu Ala Pro Gly Thr Asn Ala Gly Asp Gly Ala Arg Val Thr Arg Leu
115 120 125
Ser Val Ser Arg Trp His Arg Arg Arg Gly Val Gly Arg Arg Leu Leu
130 135 140
Ala Phe Ala Glu Ala Arg Ala Arg Ala Trp Ala Gly Gly Met Gly Leu
145 150 155 160
Pro Arg Ala Arg Leu Val Val Pro Val Ala Val Ala Ala Trp Gly Val
165 170 175
Gly Gly Met Leu Glu Gly Lys Gly Tyr Gln Ala Glu Gly Gly Trp Gly
180 185 190
Cys Leu Gly Tyr Thr Leu Val Arg Glu Phe Ser Lys Asp Leu
195 200 205

<210> 146
<211> 411
<212> PRT
<213> Homo sapiens

<400> 146
Met Asp Ala Arg Trp Trp Ala Val Val Val Leu Ala Ala Leu Pro Ser
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Leu Gly Ala Gly Gly Glu Thr Pro Gly Ala Pro Pro Glu Leu Trp Thr
20 25 30
Gln Leu Trp Leu Glu Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Leu
35 40 45
Phe Met Val Leu Gly Tyr Leu Leu Val Gln Tyr Leu Arg Arg Lys Asn
50 55 60
Tyr Leu Glu Leu Gly Arg Gly Leu Tyr Phe Ile Leu Val Leu Tyr Ala Leu
65 70 75 80
Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro
85 90 95
Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu
100 105 110
Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val
115 120 125
Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Leu
130 135 140
Ile Gly Glu Arg Ile Thr Thr Asp Thr Ile Leu Val Leu Met Asn Arg
145 150 155 160

Val Leu Leu Phe Gly Cys Val Tyr Leu Leu His Leu Leu Arg Arg His
165 170 175
Lys His Arg Pro Ala Pro Arg Leu Gln Pro Ser Arg Thr Ser Pro Gln
180 185 190
Ala Pro Arg Ala Arg Ala Trp Ala Pro Ser Gln Ala Ser Tyr Ala Ala
195 200 205
Leu His Val Pro Tyr Ala Thr Ile Asn Thr Ser Cys Arg Pro Ala Thr
210 215 220
Leu Asp Thr Ala His Pro His Gly Gly Pro Ser Trp Trp Ala Ser Leu
225 230 235 240
Pro Thr His Ala Ala His Arg Pro Gln Gly Pro Ala Ala Trp Ala Ser
245 250 255
Thr Pro Ile Pro Ala Arg Gly Ser Phe Val Ser Val Glu Asn Gly Leu
260 265 270
Tyr Ala Gln Ala Gly Glu Arg Pro Pro His Thr Gly Pro Gly Leu Thr
275 280 285
Leu Phe Pro Asp Pro Arg Gly Pro Arg Ala Met Glu Gly Pro Leu Gly
290 295 300
Val Arg
305

<210> 10
<211> 85
<212> PRT
<213> Homo sapiens

<400> 10
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20 25 30
Gly Leu Ala Gly Leu Ala Ala Ala Lys Ala Leu Leu Glu Gln Gly Phe
35 40 45
Thr Asp Val Thr Val Leu Glu Ala Ser Ser His Ile Gly Gly Arg Val
50 55 60
Gln Ser Val Lys Leu Gly His Ala Thr Phe Asp Leu Gly Ala Thr Trp
65 70 75 80
Ile His Gly Val His Gly Asn Pro Leu Tyr His Leu Ala Leu Asn Asn
85 90 95
Gly Leu Leu Glu Thr Thr Asp Gly Glu Arg Ser Val Gly Arg Ile
100 105 110
Ser Leu Tyr Asp Lys Asn Gly Val Ala Cys Tyr Leu Thr Asn His Gly
115 120 125
Arg Arg Ile Pro Lys Asp Val Val Glu Glu Phe Ser Asp Leu Tyr Asn
130 135 140
Glu Val Tyr Asn Leu Thr Lys Tyr Glu Phe Pro Arg His Asp Lys Pro Val
145 150 155 160
Asn Ala Glu Ser Gln Asn Ser Val Gly Val Phe Thr Arg Glu Gly Val
165 170 175
Arg Asn Arg Ile Arg Asn Asp Pro Asp Pro Asp Pro Glu Ala Thr Lys Arg
180 185 190
Leu Lys Leu Ala Met Ile Gln Gln Tyr Leu Lys Val Glu Ser Tyr Glu
195 200 205
Ser Ser Ser His Ser Met Asp Glu Val Ser Leu Ser Ala Phe Gly Glu
210 215 220
Trp Thr Glu Ile Pro Gly Ala His His Ile Glu Pro Ser Gly Tyr Met
225 230 235 240
Arg Val Val Glu Leu Leu Ala Glu Gly Ile Pro Ala His Val Ile Gln
245 250 255
Leu Gly Lys Arg Val Arg Tyr Ile His Gln Asp Asn Gln Val Glu Val
260 265 270

Ser Asn Phe Tyr Thr Val Ala Val Thr Ser Leu Ser Ser Gln Ile Gln
145 150 155 160

Tyr Met Asn Thr Val Val Ser Thr Tyr Val Thr Thr Asn Val Ser Leu
165 170 175

Ile Pro Pro Arg Ser Glu Gln Leu Val Asn Phe Thr Gly Lys Ala Glu
180 185 190

Met Gly Gly Pro Phe Ser Tyr Val Tyr Phe Phe Cys Thr Val Pro Gln
195 200 205

Ile Leu Val His Asn Ile Val Ile Phe Met Arg Thr Ser Val Lys Ile
210 215 220

Ser Tyr Ile Gly Leu Met Thr Gln Ser Ser Leu Glu Thr His His Tyr
225 230 235 240

Val Asp Cys Gly Gly Asn Ser Thr Ala Ile
245 250

<210> 130
<211> 174
<212> PRT
<213> Homo sapiens

<400> 130
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20 25 30

Lys Asn Gln Asp His Ala Lys Gly Gly His Ser Arg Pro Thr Ser Gln
35 40 45

Val Pro Ala Gln Cys Arg Pro Pro Ser Asp Ser Thr Gln Val Pro Cys
50 55 60

Trp Leu Tyr Arg Ala Ile Leu Ser Leu Tyr Ile Leu Leu Ala Leu Ala
65 70 75 80

Phe Val Leu Cys Ile Ile Leu Ser Ala Phe Ile Met Val Lys Asn Ala
85 90 95

Glu Met Ser Lys Glu Leu Leu Gly Phe Lys Arg Glu Leu Trp Asn Val
100 105 110

Ser Asn Ser Val Gln Ala Cys Glu Glu Arg Gln Lys Arg Gly Trp Asp
115 120 125

Ser Val Gln Gln Ser Ile Thr Met Val Arg Ser Lys Ile Asp Arg Leu
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<213> Homo sapiens

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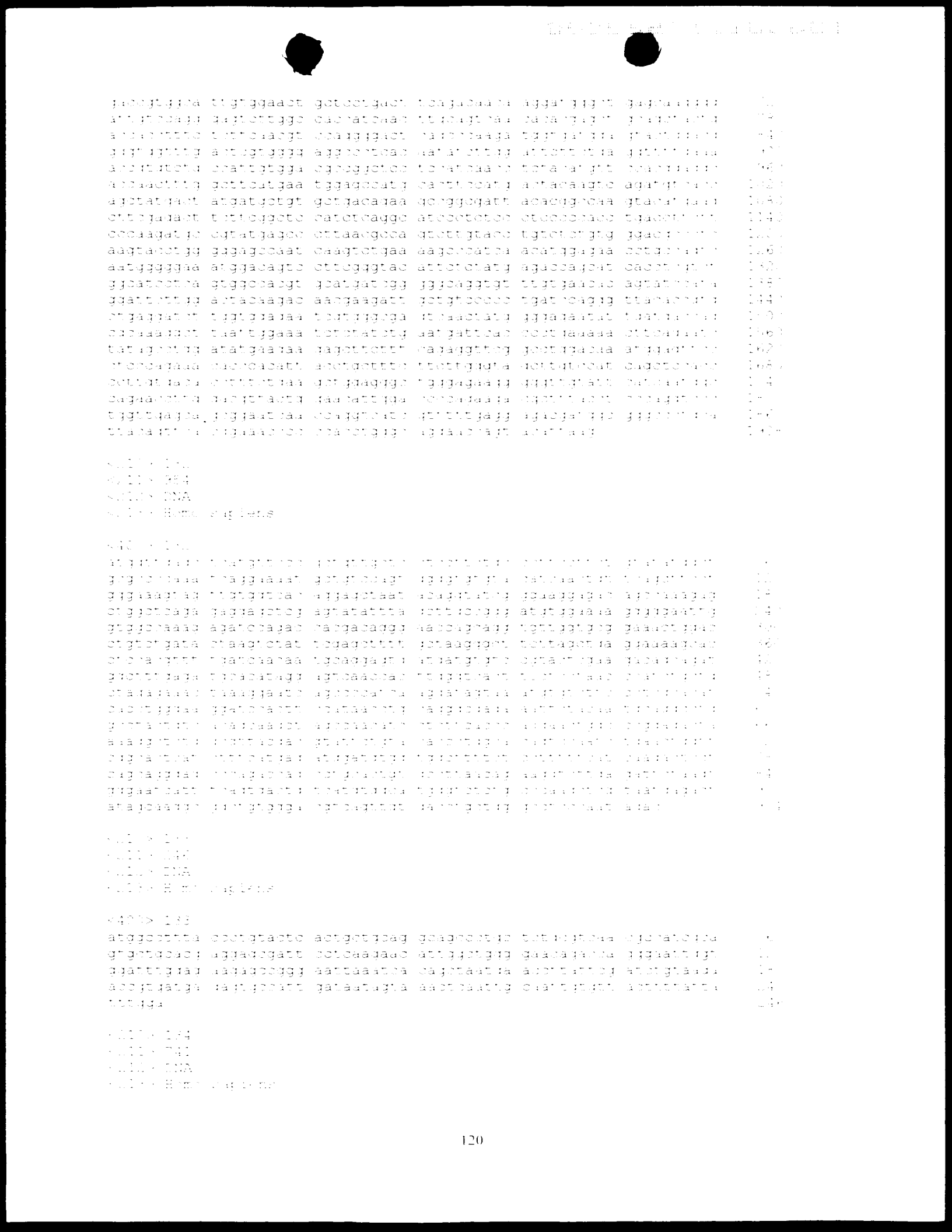

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<400> 185

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<400> 186

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<212> DNA
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<212> DNA
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35 40 45

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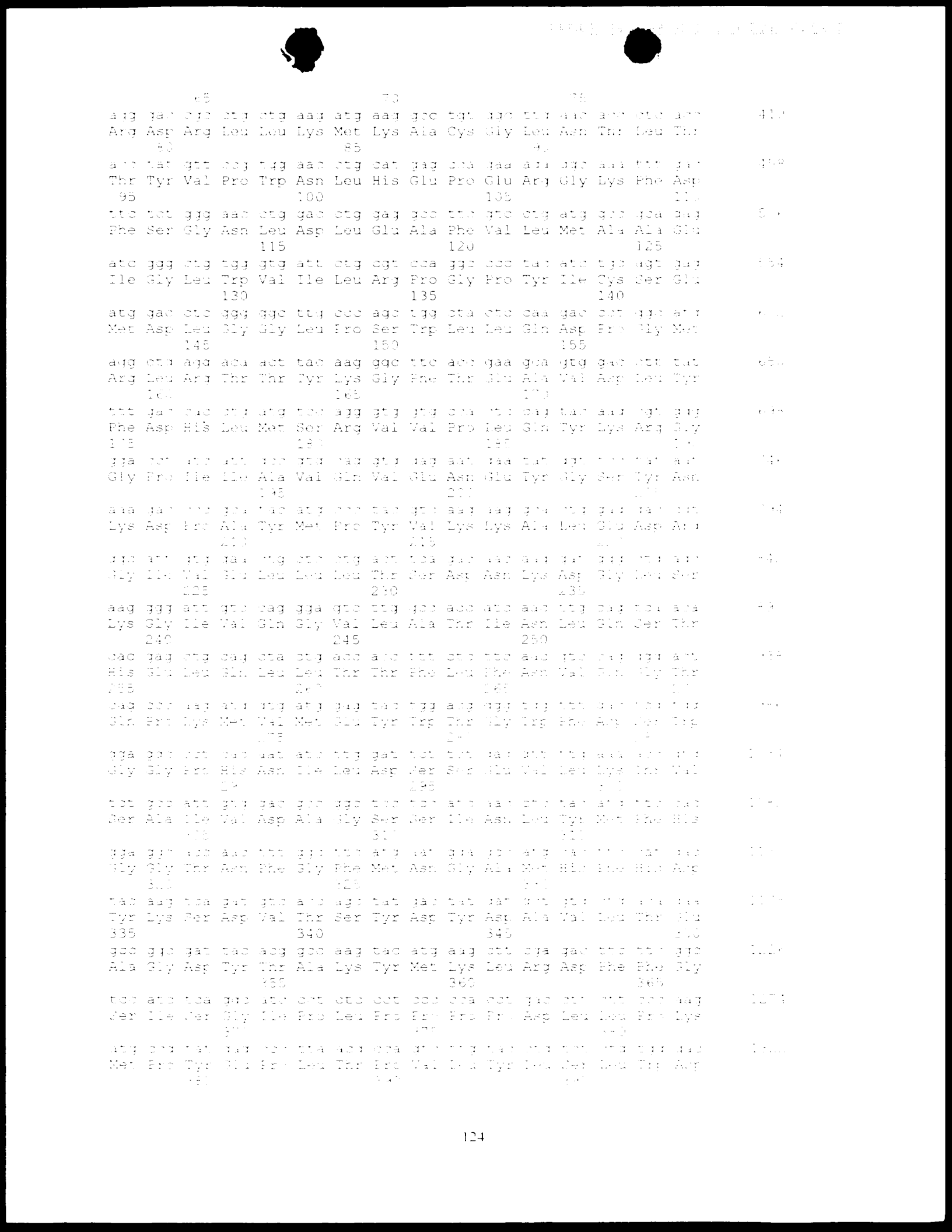

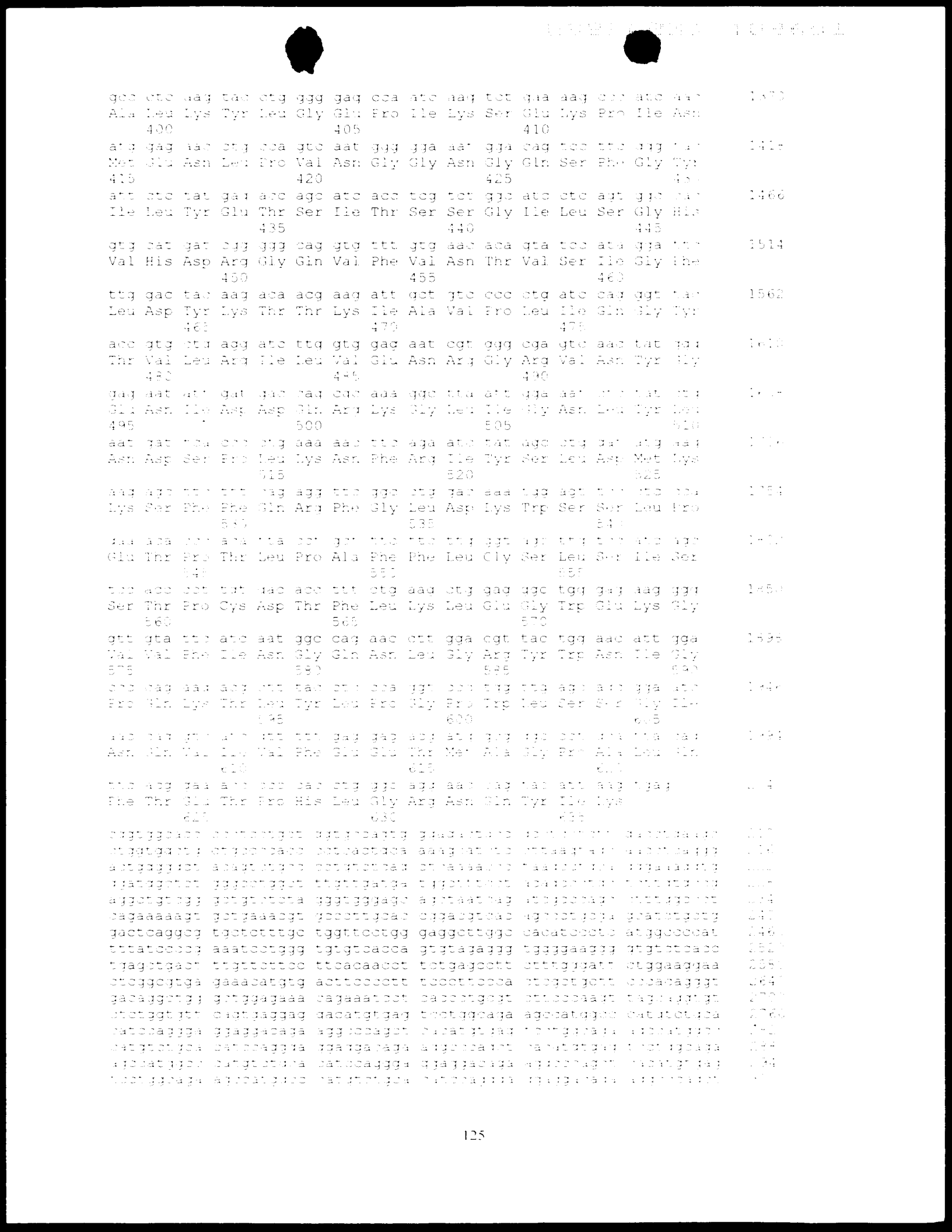

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240 245 250

ttt ttc atc aag act cct cag cag gga gct cag acc agc ctg cat tat 879
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255 260 265 270

gcc tta aca gaa ggt ctt gag att cta agt ggg aat cat ttc agt gat 927
Ala Leu Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp
275 280 285

tgt cat gtg gca tgg gtc tct gcc caa gct cgt aat gag act ata gca 975
Cys His Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala
290 295 300

agg cgg ctg tgg gac gtc agt tgt gat ctg ctg ggc ctc cca ata gat 1023
Arg Arg Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp
305 310 315

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Met Ala Phe Thr Leu Tyr Ser Leu Leu
1 5

cag gca gcc ctg ctc tgc gtc aac gcc atc gca gtg ctg cac gag gag 158
Gln Ala Ala Leu Leu Cys Val Asn Ala Ile Ala Val Leu His Glu Glu
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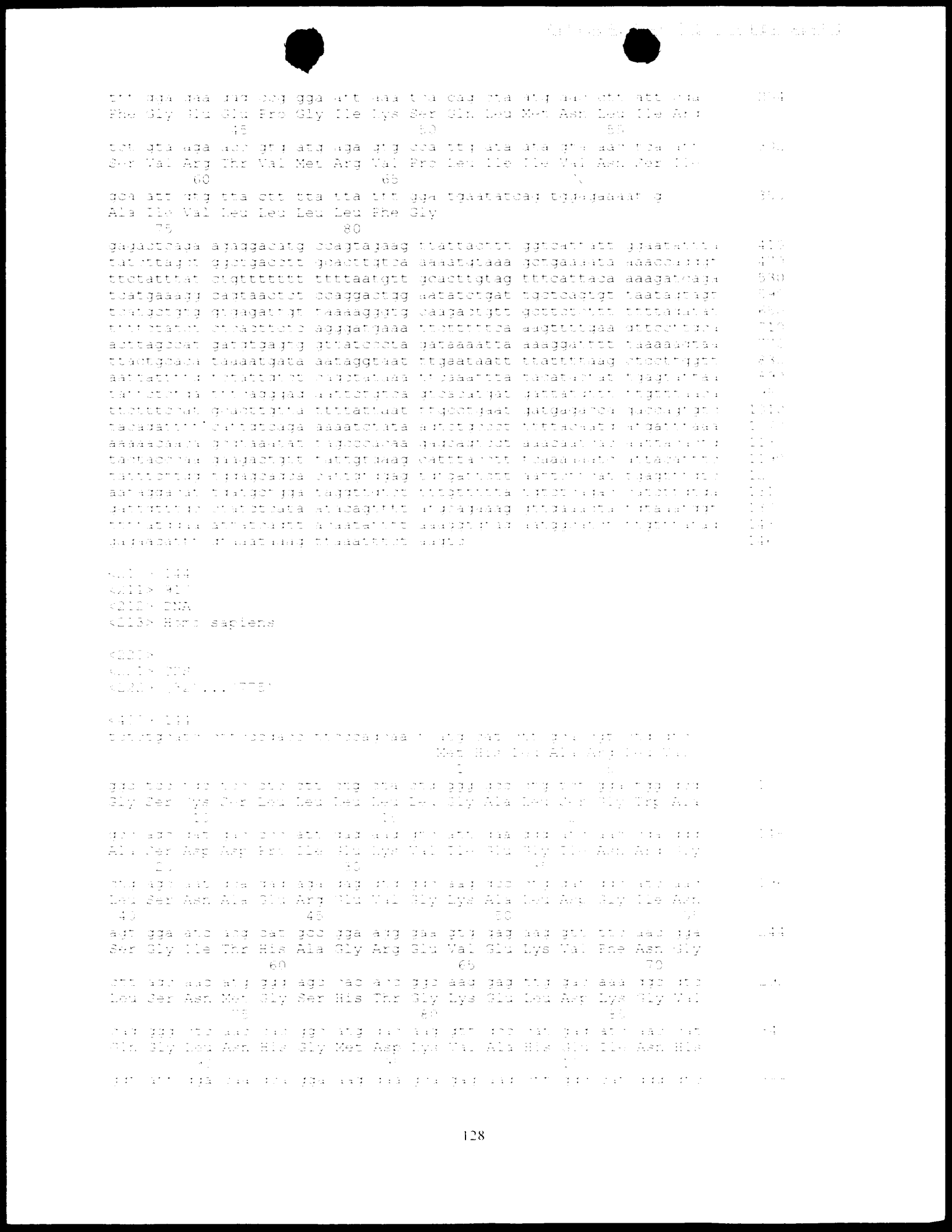

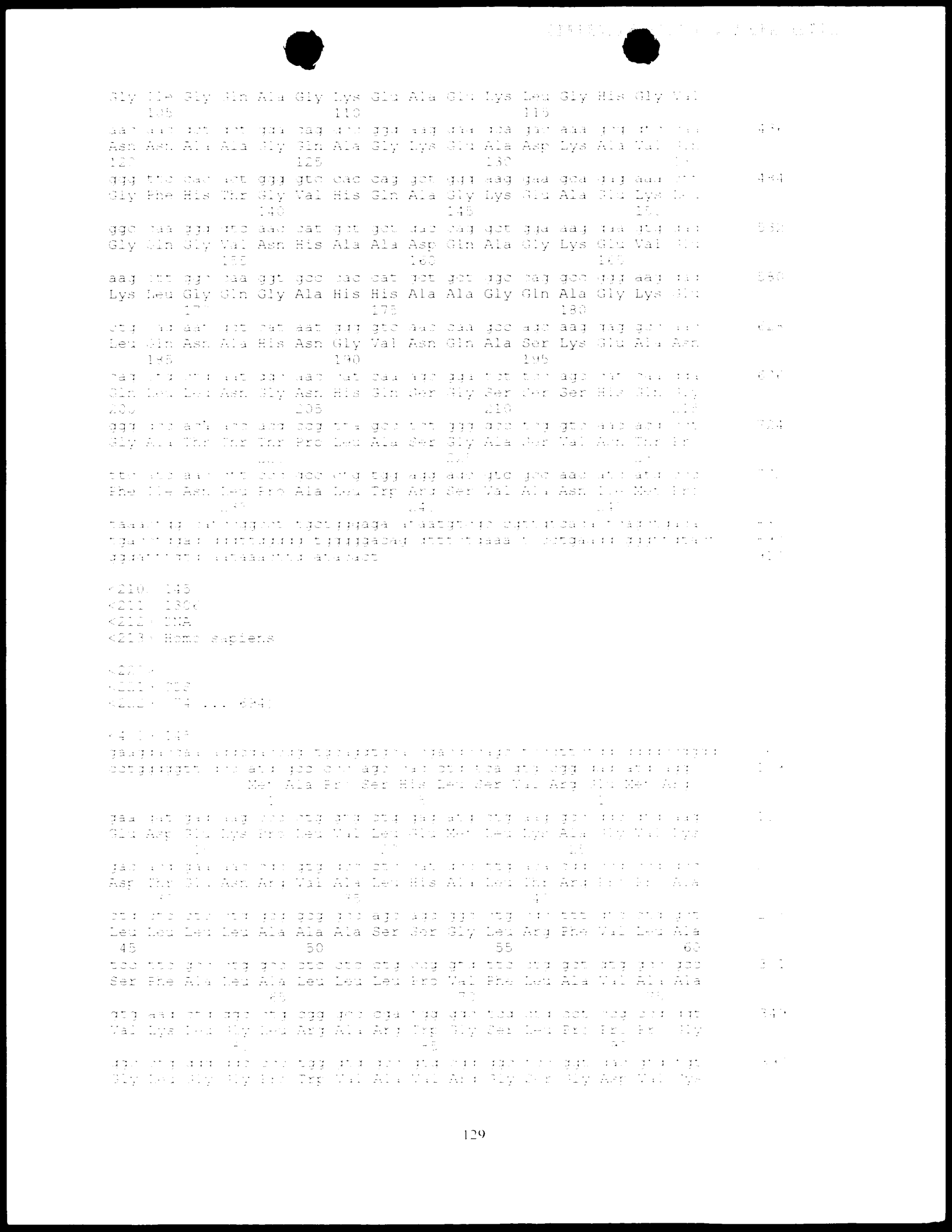

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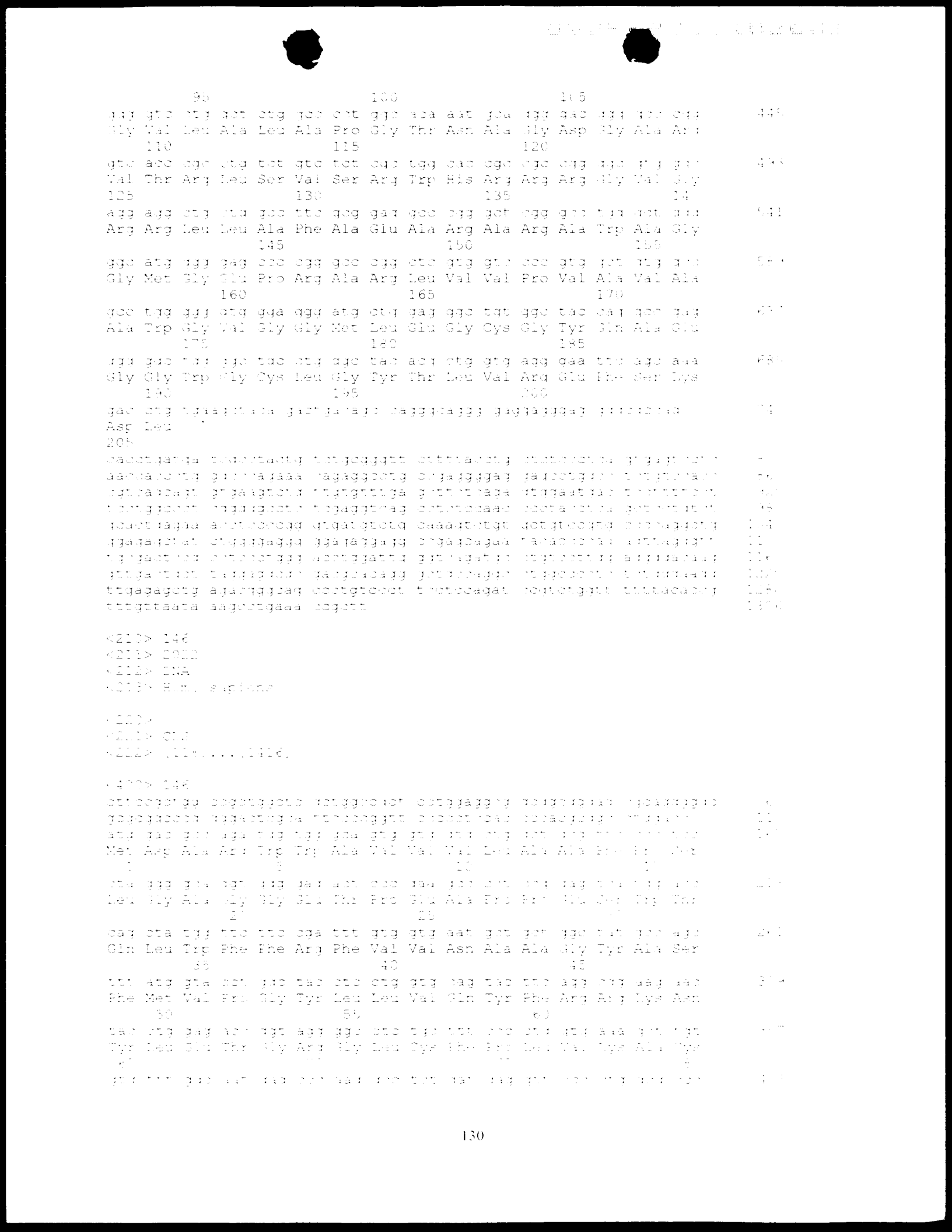

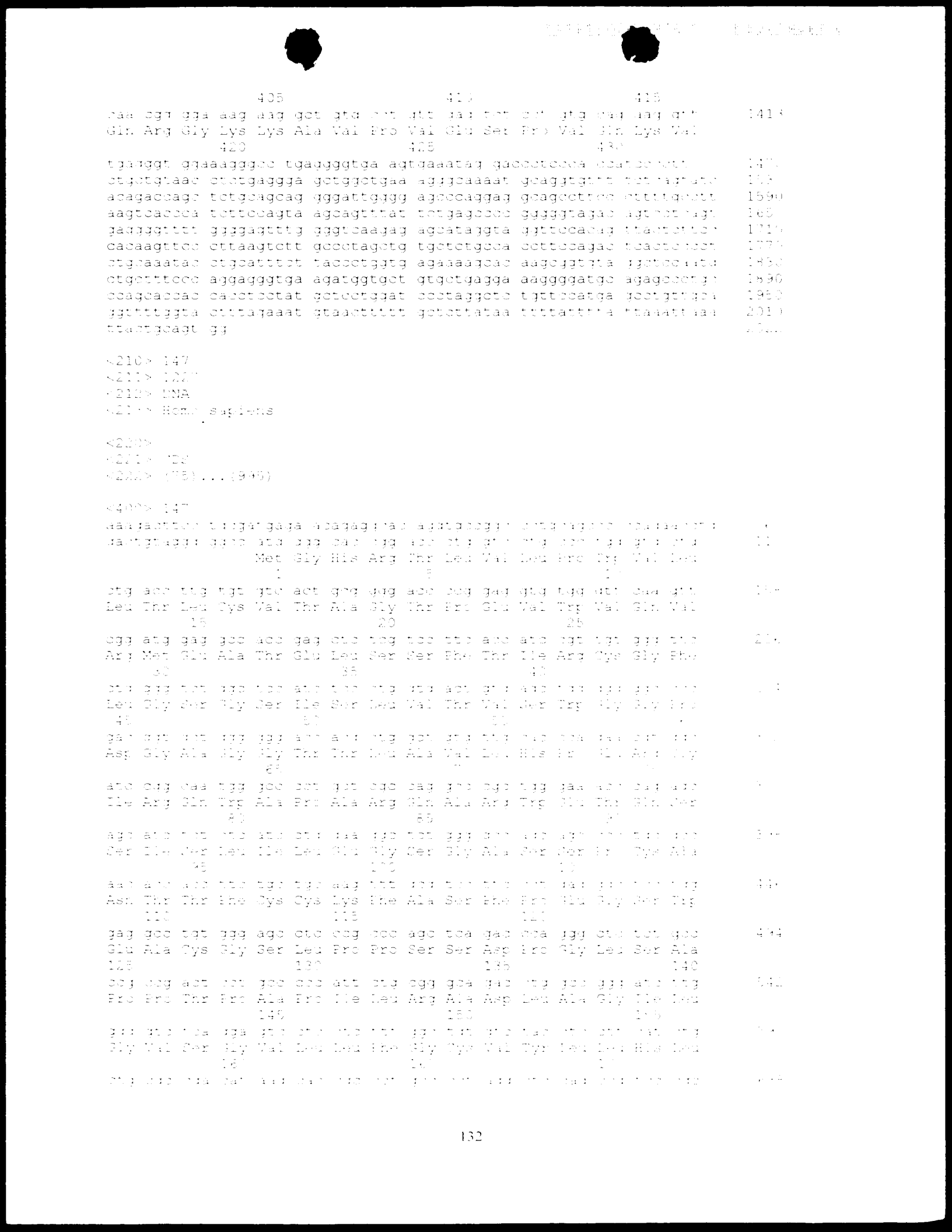

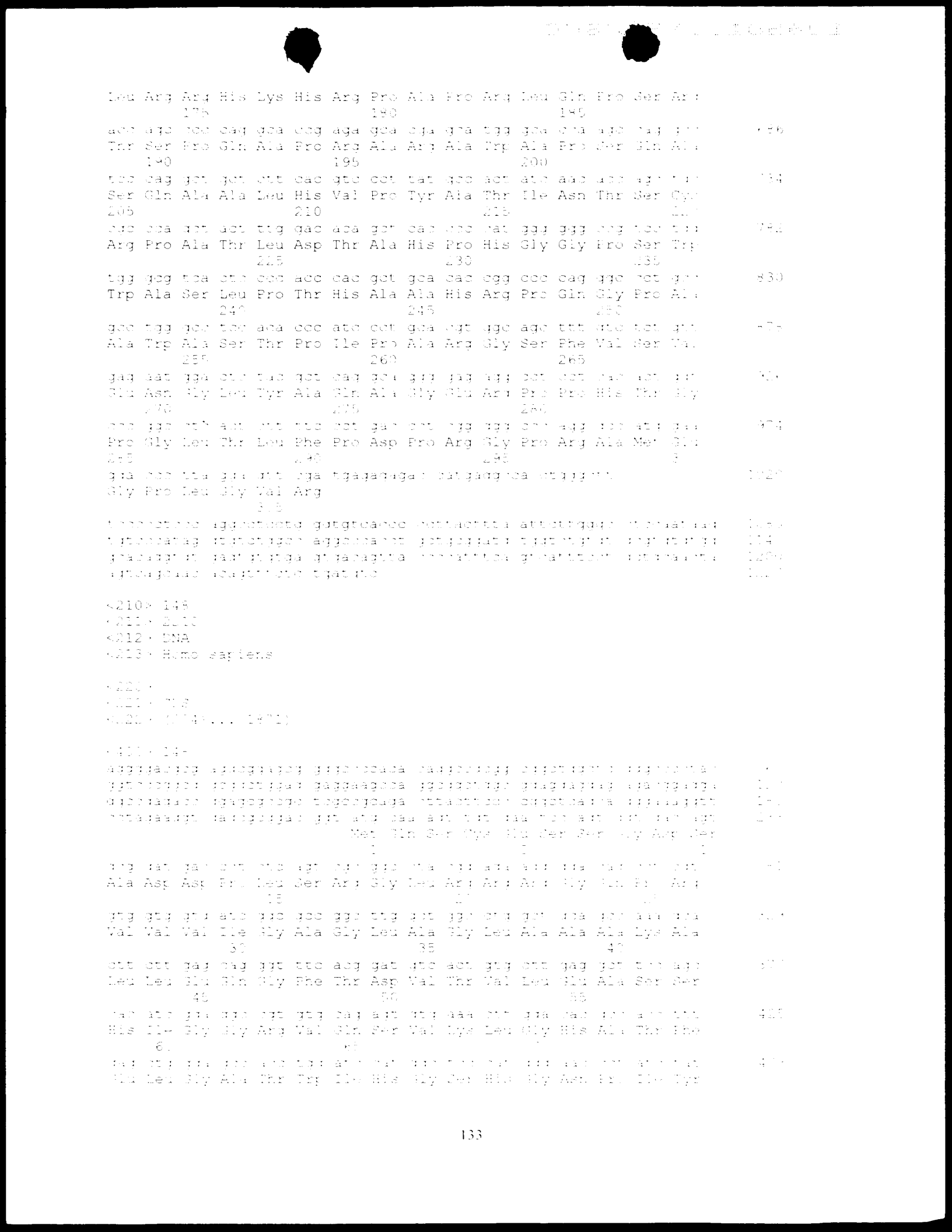

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Trp Ile Cys Gly Glu Glu Ala Leu Val Met Glu Lys Cys Asp Asp Glu
        430                 435                 440

gca gtg gcc gag atc tgc acg gag atg ctg cgt cag ttc acg ggc aac      1577
Ala Val Ala Glu Ile Cys Thr Glu Met Leu Arg Gln Phe Thr Gly Asn
    445                 450                 455

ccc aac att ccc aaa cct cgg cga atc ttg cgc tcg gcc tgg ggc agc      1625
Pro Asn Ile Pro Lys Pro Arg Arg Ile Leu Arg Ser Ala Trp Gly Ser
460                 465                 470

aac cct tac ttc cgc ggc tcc tat tca tac acg cag gtg ggc tcc agc      1673
Asn Pro Tyr Phe Arg Gly Ser Tyr Ser Tyr Thr Gln Val Gly Ser Ser
475                 480                 485                 490

ggg gcg gat gtg gag aag ctg gcc aag ccc ctg ccg tac acg gag agc      1721
Gly Ala Asp Val Glu Lys Leu Ala Lys Pro Leu Pro Tyr Thr Glu Ser
                495                 500                 505

tca aag acg gcg ccc atg cag gtg ctg ttt tcc ggt gag gcc acc cac      1769
Ser Lys Thr Ala Pro Met Gln Val Leu Phe Ser Gly Glu Ala Thr His
            510                 515                 520

cgc aag tac tat tcc acc acc cac ggt gct ctg ctg tcc ggc cag cgt      1817
Arg Lys Tyr Tyr Ser Thr Thr His Gly Ala Leu Leu Ser Gly Gln Arg
        525                 530                 535

gag gct gcc cgc ctc att gag atg tac cga gac ctc ttc cag cag ggc      1865
Glu Ala Ala Arg Leu Ile Glu Met Tyr Arg Asp Leu Phe Gln Gln Gly
    540                 545                 550

acc tgagggctgt cctcgctgct gagaagaggc actaactggt gacctccagc c         1920
Thr
555

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Ala Ala Arg Pro Ser Ser Cys Arg Arg Lys Gln Glu Asp Asp Arg Asp
        10                  15                  20

ggt ttg ctg gct gaa cga gag cag gaa gaa gcc att gct cag ttc cca      209
Gly Leu Leu Ala Glu Arg Glu Gln Glu Glu Ala Ile Ala Gln Phe Pro
    25                  30                  35

tat gtg gaa ttc acc ggg aga gat agc atc acc tgt ctc acg tgc cag      257
Tyr Val Glu Phe Thr Gly Arg Asp Ser Ile Thr Cys Leu Thr Cys Gln
40                  45                  50                  55

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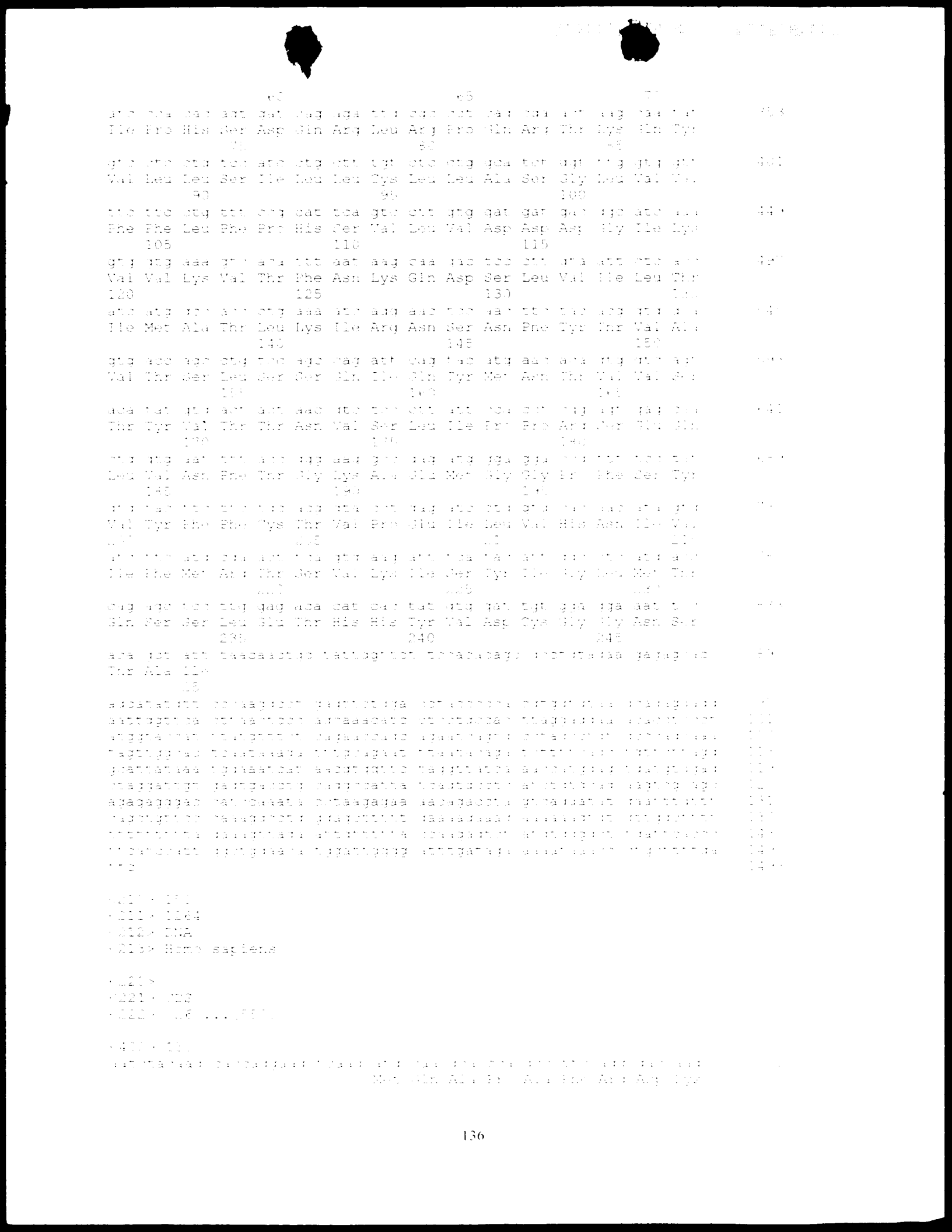

136


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gaa aat atc acc ttg gcc ttc aaa aat cag gac cat gca aag ggt ttt      148
Glu Asn Ile Thr Leu Ala Phe Lys Asn Gln Asp His Ala Lys Gly Phe
             30                  35                  40
cat tca cga ccc acg agc caa gtc cca gcc cag tgc agg ccg ccc tca      196
His Ser Arg Pro Thr Ser Gln Val Pro Ala Gln Cys Arg Pro Pro Ser
         45                  50                  55
gac tcc acc cag gtc ccc tgc tgg ttg tac aga gcc atc ctg agc ctg      244
Asp Ser Thr Gln Val Pro Cys Trp Leu Tyr Arg Ala Ile Leu Ser Leu
     60                  65                  70
tac atc ctc ctg gcc ctg gcc ttt gtc ctc tgc atc atc ctg tca gtc      292
Tyr Ile Leu Leu Ala Leu Ala Phe Val Leu Cys Ile Ile Leu Ser Ala
 75                  80                  85
ttc atc atg gtg aag aat gct gag atg tcc aag gag ctg ctg ggc ttt      340
Phe Ile Met Val Lys Asn Ala Glu Met Ser Lys Glu Leu Leu Gly Phe
 90                  95                 100                 105
aaa agg gag ctt tgg aat gtc tca aac tcc gta caa gca tgc gaa gtt      388
Lys Arg Glu Leu Trp Asn Val Ser Asn Ser Val Gln Ala Cys Glu Glu
                110                 115                 120
aga cag aaa aga ggc tgg gat tcc gtt cag cag agc atc acc atg gtt      436
Arg Gln Lys Arg Gly Trp Asp Ser Val Gln Gln Ser Ile Thr Met Val
            125                 130                 135
agg agc aag att gat aga tta gag acg aca tta gca ggc ata aaa aat      484
Arg Ser Lys Ile Asp Arg Leu Glu Thr Thr Leu Ala Gly Ile Lys Asn
        140                 145                 150
att gat aca aag gta cag aaa atc ttg gag gtg ctg cag aaa atg cca      532
Ile Asp Thr Lys Val Gln Lys Ile Leu Glu Val Leu Gln Lys Met Pro
    155                 160                 165
cag tcc tca cct caa taaatgagag gacattgtgg cagccaaagc cac             580
Gln Ser Ser Pro Gln
170
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